CDX-C880

SERVICE MANUAL

US Model
E Model

Model Name Using Similar Mechanism	CDX-C680/C780
CD Drive Mechanism Type	MG-363S-121
Optical Pick-up Name	KSS-521A

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)
POWER OUTPUT AND TOTAL HARMONIC DISTORTION
19 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1 % total harmonic distortion.

Other specifications

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	100 dB
Frequency response	10 - 20,000 Hz
Wow and flutter	Below measurable limit
Laser Diode Properties	
Material	GaAlAs
Wavelength	780 nm
Emission Duration	Continuous
Laser output power	Less than 44.6 μW*

* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.*

Tuner section

FM

Tuning range	US model: 87.5 - 107.9 MHz E model: FM tuning interval: 50 kHz/200 kHz switchable 87.5 - 108.0 MHz (at 50 kHz step) 87.5 - 107.9 MHz (at 200 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz 50 dB at 200 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7% (stereo), 0.4% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 - 15,000 Hz

AM

Tuning range	US model: 530 - 1,710 kHz E model: AM tuning interval: 9 kHz/10 kHz switchable 531 - 1,602 kHz (at 9 kHz step) 530 - 1,710 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 μV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 - 8 ohms
Maximum power output	45 W × 4 (at 4 ohms)

– Continued on next page –

FM/AM COMPACT DISC PLAYER

MICROFILM

SONY®

General

Outputs	EQ output Line outputs (3) Power antenna relay control lead Power amplifier control lead Telephone ATT control lead Illumination control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 182 mm (7 1/8 × 2 × 7 1/4 in.) (w/h/d)
Mounting dimension	Approx. 182 × 53 × 163 mm (7 1/4 × 2 1/8 × 6 1/2 in.) (w/h/d)
Mass	Approx. 1.4 kg (3 lb. 1 oz.)
Supplied accessories	Rotary commander RM-X4S (1) Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

SERVICE NOTE

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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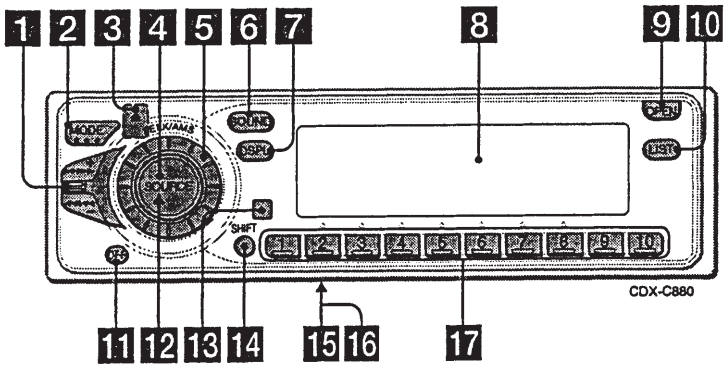
Location of controls



EN

Refer to the pages for details.

1 SEEK/AMS (seek/Automatic Music Sensor/manual search) control
9, 10, 12, 13, 14, 20, 21, 22, 25, 31

2 MODE (band/unit select) button
13, 19, 21, 24, 31

3 ⏏ (eject) button (located on the front side of the unit hidden by the front panel) 8

4 SOURCE (TUNER/CD/MD/TV) button
8, 13, 18, 19, 21, 24, 26, 27, 29, 30, 31, 33

5 Dial (volume/subwoofer volume/bass/treble/left-right/rear-front control)
7, 15, 17, 23, 24, 26, 27, 28, 29, 30

6 SOUND button 17, 26, 27, 28, 29, 30

7 DSPL (display mode change) button
8, 9, 14, 15, 19, 24, 25

8 Display window

9 OPEN button 6, 8, 34

10 LIST button
Station Memo 14, 15, 32
Disc Memo 23, 24
List-up 15, 25
DSP Custom File 27

11 OFF button 6, 8

12 Reset button (located on the front side of the unit behind by the front panel) 6

13 Receptor for the optional wireless remote

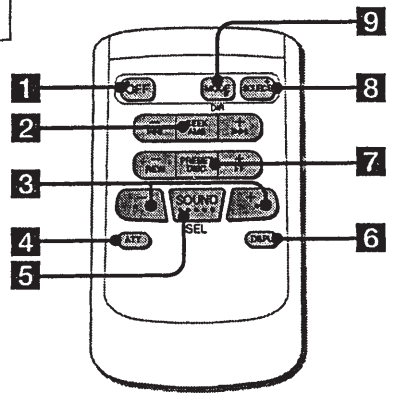
14 SHIFT button
PLAY MODE 9, 10, 11, 12, 13, 14, 20, 21, 22, 23, 25, 26, 27, 31
REP 10, 20
SET UP 7, 9, 18, 19, 30
SHUF 10, 20

15 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/Connections manual.

16 LINE-OUT/IN SELECT switch (located on the bottom of the unit)
See "LINE-OUT/IN SELECT switch" in the Installation/Connections manual.

17 During radio reception:
Number buttons 13
During CD/MD playback:
Direct disc selection buttons 20, 21
During TV reception:
Number buttons 31

Optional wireless remote (RM-X47)



The buttons of the wireless remote work the same functions as those on this unit.

1 OFF button

2 SEEK/AMS button

3 ⊖ ⊕ buttons

4 ATT button

5 SOUND/SEL button

6 DSPL button

7 PRESET/DISC button
You cannot do manual search and manual tuning with the remote.

8 SOURCE button

9 MODE/DIR button
(MODE) controls the same function on this unit

When the POWER SELECT switch is set to the ⓑ position, the unit cannot be operated with the wireless remote unless (SOURCE) on the unit is pressed or a CD is inserted to activate the unit first.

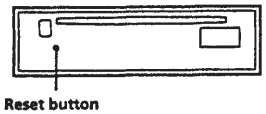
EN

This section is extracted from instruction manual.

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Press the reset button with a pointed object, such as a ballpoint pen.



Reset button

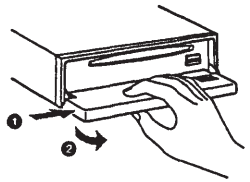
Notes
- *Pressing the reset button will erase the clock and some memorized functions.*
- *When you connect the power supply cord to the unit or reset the unit, wait for about 10 seconds before you insert a disc. If you insert a disc within these 10 seconds, the unit will not be reset, and you will have to press the reset button again.*

Detaching the front panel

You can detach the front panel of this unit to prevent the unit from being stolen.

1 Press (OFF).

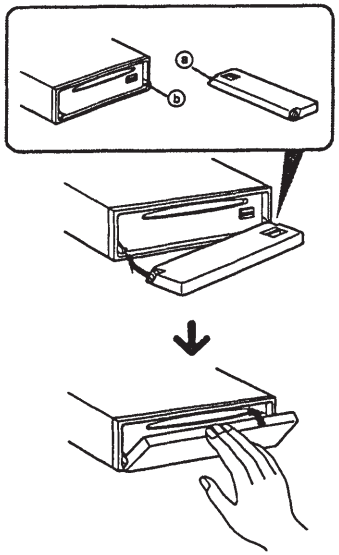
2 Press (OPEN) to open the front panel, then slide the front panel to the right side, and pull out the left side of the front panel.



Notes
- *Do not put anything on the inner surface of the front panel.*
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you detach the panel while the unit is still on, the power will turn off automatically to prevent the speakers from being damaged.*
- *When you carry the front panel with you, put it in the supplied front panel case.*

Attaching the front panel

Place the hole ⓐ in the front panel onto the spindle ⓑ on the unit as illustrated, then push the left side in.



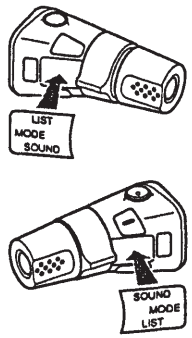
Notes
- *Be sure not to attach the front panel upside down.*
- *Do not press the front panel hard against the unit when attaching it. Press it lightly against the unit.*
- *Do not press hard or put excessive pressure on the display windows of the front panel.*
- *Do not expose the front panel to direct sunlight, heat sources such as hot air ducts, and do not leave it in a humid place. Never leave it on the dashboard of a car parked in direct sunlight where there may be a considerable rise in temperature.*

Caution alarm

If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds (only when the POWER SELECT switch is set to the Ⓐ position).

Preparing the rotary commander

When you mount the rotary commander, attach the label shown in the illustration below.

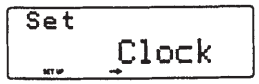


Setting the clock

The clock uses a 12-hour digital indication.

Example: Set the clock to 10:08

1 Press (SHIFT), then press (3) (SET UP).



❶ Press (5) (→).

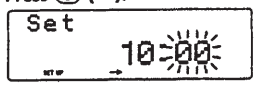
The hour digit flashes.

❷ Set the hour.

to go backward

to go forward

❸ Press (5) (→).

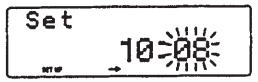


The minute digits flash.

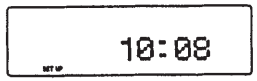
❹ Set the minute.

to go backward

to go forward



2 Press (SHIFT).



The clock starts.

3 Press (SHIFT).
After the mode setting is complete, the display goes back to normal playback mode.

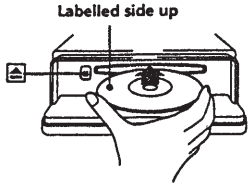
Note
If the POWER SELECT switch on the bottom of the unit is set to the Ⓑ position, turn the power on first, then set the clock.

CD Player

Listening to a CD

1 Press (OPEN) and insert the CD.

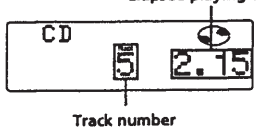
Labelled side up



2 Close the front panel.
Playback starts automatically.

If a CD is already inserted, press (SOURCE) repeatedly until "CD" appears.

Elapsed playing time



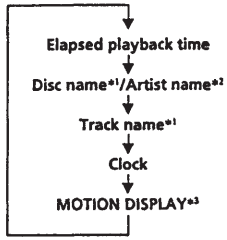
Track number

Note
To play back an 8 cm (3 in.) CD, use the optional Sony compact disc single adapter (CSA-8).

To	Press
Stop playback	(OFF)
Eject the CD	(OPEN) then ⏏

Changing the displayed item

Each time you press (DSPL), the item changes as follows:



*1 *If you inserted a non-CD TEXT disc, "NO D.Name" or "NO T.Name" appears in the display.*
*2 *If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)*
*3 *All the items above are scrolled in the display one by one in order.*

You can label CD and CD TEXT discs with a personalized name using the disc memo function, refer to "Labeling a CD" (page 23). However, if you use personalized labels, they will always take priority over the original CD TEXT information when such information is displayed.

Tips
- *If the name of the CD TEXT disc is too long, you can scroll it across the display by pressing (SHIFT), then (2) (←).*
- *If you want to display the original CD TEXT information after labelling the CD TEXT disc with a personalized name, press (SHIFT), then (5) (→).*

Automatically scrolling a disc name — Auto Scroll

If the disc name/artist name or track name on a CD TEXT disc exceeds 10 characters and the Auto Scroll function is on, automatically scrolls on the display as follows:
- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*

If you press (DSPL) to change the display item, the disc or track name of the CD TEXT disc is scrolled automatically whether you set the function on or off.

1 During playback, press (SHIFT).

2 Press (3) (SET UP) repeatedly until "A.Scrl" appears.

3 Press (5) (→) to select "A.Scrl on."

4 Press (SHIFT).

To cancel Auto Scroll, select "A.Scrl off" in step 3 above.

Note
For some CD TEXT discs with extremely many characters, the following cases may happen:
— Some of the characters are not displayed.
— Auto Scroll does not work.

Locating a specific track — Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down momentarily.

To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track — Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward

To search backward

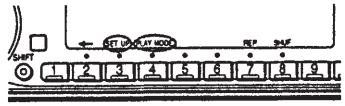
Note
If "LLLLL" or "⌐⌐⌐⌐⌐" appears in the display, that means you have reached the beginning or the end of the disc and you cannot go any further.

Playing a CD in various modes

You can play CDs in various modes:
- Intro (Intro Scan) lets you play the first 10 seconds of all the tracks.
- Repeat (Repeat Play) repeats the current track.
- Shuf (Shuffle Play) plays all the tracks in random order.

Searching for the desired track — Intro scan

1 Press (SHIFT).
Every time you press (SHIFT), only the items you can select light up.



2 Press (4) (PLAY MODE) repeatedly until "Intro" appears.
Each time you press (4) (PLAY MODE), the item changes as follows:
Intro ⟷ PGM

3 Press (5) (→) to select "Intro on."

Intro Scan starts.

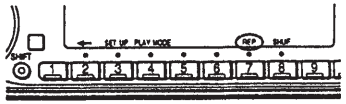
4 Press (SHIFT).

To go back to normal playback mode, select "Intro off" in step 3 above.

Playing tracks repeatedly
— Repeat Play

1 During playback, press (SHIFT).

2 Press ⑦ (REP) repeatedly until "Repeat 1" appears.



Repeat Play starts.

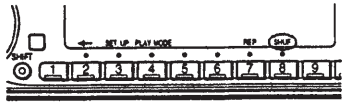
3 Press (SHIFT).

To go back to normal playback mode, select "Repeat off" in step 2 above.

Playing tracks in random order
— Shuffle Play

1 During playback, press (SHIFT).

2 Press ⑧ (SHUF) repeatedly until "Shuf 1" appears.



Shuffle Play starts.

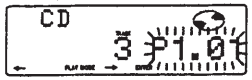
3 Press (SHIFT).

To go back to normal playback mode, select "Shuf off" in step 2 above.

Creating a program
— CD Program Memory

You can play the tracks in the order you want by making your own program. You can make two programs: Program 1 and Program 2. You can select up to 12 tracks for each program. You can store the programs in memory.

1 Press (SHIFT), then press ④ (PLAY MODE) for two seconds.

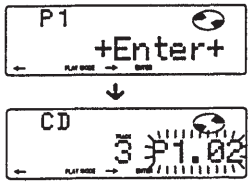


"P 1" indicates Program 1 is selected.

To select Program 2, press ⑤ (→) repeatedly until "P 2" appears.

2 Push the SEEK/AMS control up or down to select the track you want.

3 Press ⑥ (ENTER) momentarily.



4 To continue entering tracks, repeat steps 2 and 3.

5 When you finish selecting tracks, press ④ (PLAY MODE) for two seconds.

6 Press (SHIFT).

Notes
- *"*Wait*" appears in the display while the unit is reading the data.*
- *"*Mem Full*" appears in the display when you try to enter more than 12 tracks into a program.*

Playing the stored program

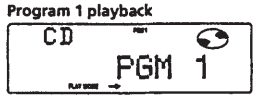
You can select:
- PGM 1 to play Program 1.
- PGM 2 to play Program 2.
- PGM 1+2 to play Programs 1 and 2.

1 Press (SHIFT).

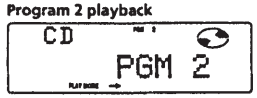
2 Press ④ (PLAY MODE) repeatedly until "PGM" appears.

3 Press ⑤ (→) repeatedly until the desired program appears.

Program 1 playback

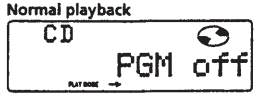


Program 2 playback



Programs 1 and 2 playback

Normal playback



Program Play starts.

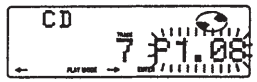
4 Press (SHIFT).

To go back to normal playback mode, select "PGM off" in step 3 above.

Note
"Not ready" appears in the display if no track is stored in the program.

Erasing an entire program

1 Press (SHIFT), then press ④ (PLAY MODE) for two seconds.



"P 1" indicates Program 1 is selected.

2 Press ② (←) repeatedly until "DEL" appears.

To delete Program 2, press ⑤ (→) repeatedly until "PGM 2" appears.

3 Press ⑥ (ENTER) for two seconds.

The entire program is erased.

4 When you finish erasing programs, press ④ (PLAY MODE) for two seconds.

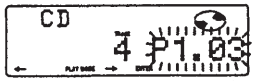
5 Press (SHIFT).

EN

– 7 –

Adding tracks to a program

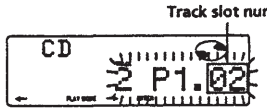
1 Press (SHIFT), then press ④ (PLAY MODE) for two seconds.



"P 1" indicates Program 1 is selected.

To select Program 2, press ⑤ (→) repeatedly until "P 2" appears.

2 Press ② (←) or ⑤ (→) to select the track slot number where you want to insert a track.



3 Push the SEEK/AMS control up or down to select the track you want to insert.

4 Press ⑥ (ENTER) momentarily to enter the track.
The current track in that slot number and the succeeding tracks shift down.

5 To continue inserting tracks, repeat steps 2 through 4.

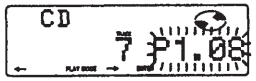
Note
*Once all 12 slots have been filled, "*Mem Full*" appears in the display, and you cannot insert tracks.*

6 When you finish inserting tracks, press ④ (PLAY MODE) for two seconds.

7 Press (SHIFT).

Erasing tracks in a program

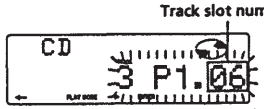
1 Press (SHIFT), then press ④ (PLAY MODE) for two seconds.



"P 1" indicates Program 1 is selected.

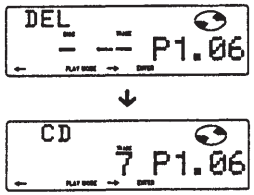
To select Program 2, press ⑤ (→) repeatedly until "P 2" appears.

2 Press ② (←) or ⑤ (→) to select the track you want to erase.



The track currently registered in slot 6 of Program 1.

3 Press ⑥ (ENTER) for two seconds.
When you erase a track from a slot number, the succeeding tracks shift up to fill the gap.



4 To continue erasing tracks, repeat steps 2 and 3.

5 When you finish erasing tracks, press ④ (PLAY MODE) for two seconds.

6 Press (SHIFT).

EN

8

Radio

Memorizing stations automatically

— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorizes them in the order of their frequencies. You can store up to 10 stations on each band (FM1, FM2 and AM).

Caution
When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

1 Press (SOURCE) repeatedly to select the tuner.
Each time you press (SOURCE), the source changes as follows:
CD ⟷ TUNER

2 Press (MODE) repeatedly to select the band.
Each time you press (MODE), the band changes as follows:

3 Press (SHIFT), then press ④ (PLAY MODE) repeatedly until "B.T.M" appears.

4 Press ⑤ (→).
The unit stores stations in the order of their frequencies on the number buttons.
A beep sound and the setting is stored.

5 Press (SHIFT).

Notes
- *The unit does not store stations with weak signals. If only a few stations are received, some number buttons will retain their former setting.*
- *When a number is indicated in the display, the unit starts storing stations from the one currently displayed.*

Memorizing only the desired stations

You can store up to 10 stations on each band (20 for FM1 and FM2, 10 for AM) in the order of your choice.

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band (FM1, FM2 or AM).

3 Push the SEEK/AMS control up or down to tune in the station you want to store on the number button.

4 Press and hold the desired number button (① to ⑩) until "MEM" appears.
The number button indication appears in the display.

Note
If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the memorized stations

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band (FM1, FM2 or AM).

3 Press the number button (① to ⑩) momentarily where the desired station is stored.

EN

CD Player/Radio

If you cannot tune in a preset station

Push the SEEK/AMS control up or down momentarily to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Push the SEEK/AMS control up or down repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (SHIFT), then press ④ (PLAY MODE) repeatedly until "Local" (local seek mode) is displayed. Then press ⑤ (→) to select "Local on." Press (SHIFT). Only the stations with relatively strong signals will be tuned in.

Tip
If you know the frequency of the station you want to listen to push the SEEK/AMS control up or down and hold until the desired frequency appears (manual tuning).

EN

If FM stereo reception is poor — Monaural Mode

1 **Press (SHIFT), then press ④ (PLAY MODE) repeatedly until "Mono" appears.**

2 **Press ⑤ (→) repeatedly until "Mono on" appears.**
The sound improves, but becomes monaural ("ST" disappears).

3 **Press (SHIFT).**

To go back to normal mode, select "Mono off" in step 2 above.

If interference occurs during FM reception

If there is interference from neighboring stations, follow the steps below and select "Narrow". If interference is not a problem, select "Wide" to maximize signal reception and improve sound quality or "IF Auto "to switch between "Narrow" and "Wide" automatically.

1 **Press (SHIFT) during FM reception.**

2 **Press ④ (PLAY MODE) repeatedly until "IF Auto" appears.**

3 **Press ⑤ (→) repeatedly to select desired setting.**

IF Auto → Wide → Narrow ←

4 **Press (SHIFT).**

Changing the displayed items

Each time you press (DSPL), the item changes as follows:

Frequency → Clock → MOTION DISPLAY* ←

** All the items above are scrolled in the display one by one in order.*

Storing the station names —Station Memo

You can assign a name to each radio station and store it in memory. The name of the current station appears in the display. You can store up to eight characters for each station.

Storing the station names

1 **Tune in a station whose name you want to store.**

2 **Press (LIST) for two seconds.**

3 **Enter the characters.**

❶ **Rotate the dial clockwise to select the desired characters.**
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → _)

If you rotate the dial counterclockwise, the characters appear in the reverse order.
If you want to put a blank space between characters, select "_" (under-bar).

❷ **Press ⑤ (→) after locating the desired character.**
The flashing cursor moves to the next space.

If you press ② (←), the flashing cursor moves to the left.

❸ **Repeat steps ❶ and ❷ to enter the entire name.**

4 **To return to normal radio reception, press (LIST) for two seconds.**

Tip
To erase/correct a name, enter "_" (under-bar) for each character.

Displaying the station name

Press (DSPL) during radio reception.

Each time you press (DSPL), the item changes as follows:

Station name*1 → Frequency → Clock → MOTION DISPLAY*2 ←

**1 If the station name is not stored, "NO Name" appears in the display for one second.*
**2 All the items above are scrolled in the display one by one in order.*

Erasing the station name

1 **Tune in any station and press (LIST) for two seconds.**

2 **Press (DSPL) for two seconds.**
The station name appears in the display.

3 **Rotate the dial to select the name you want to erase.**

4 **Press ⑥ (ENTER) for two seconds.**
The name is erased.
Repeat steps 3 and 4 if you want to erase other names.

5 **Press (LIST) for two seconds.**
The unit returns to normal radio reception mode.

Locating a station by name — List-up

1 **Press (LIST) momentarily.**
The name assigned to the current station appears in the display.

2 **Press (LIST) repeatedly until you find the desired station.**

3 **Press ⑥ (ENTER) to tune in the desired station.**

Note
After the station name or frequency has been displayed for five seconds, the display goes back to normal mode. To turn off the display, press (DSPL).

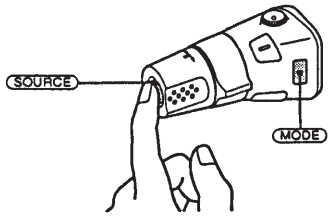
EN
Radio

Other Functions

Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.
You can control an optional CD or MD unit with the rotary commander.

By pressing buttons (the SOURCE and MODE buttons)



Each time you press (SOURCE), the source changes as follows:

TUNER → CD → MD* → TV*

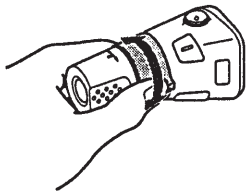
* *When an optional MD unit, TV tuner or Video is connected.*

Pressing (MODE) changes the operation in the following ways;

- Tuner: FM1 → FM2 → AM
- CD unit: CD1 → CD2 → ...
- MD unit: MD1 → MD2 → ...
- TV/Video: TV → Video1 → Video2 → ...

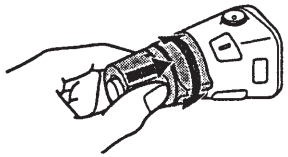
Tip
When the POWER SELECT switch is set to position B, you can turn on this unit by pressing (SOURCE) on the rotary commander.

By rotating the control (the SEEK/ AMS control)



Rotate the control momentarily and release it to:
- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.
- Tune in stations automatically. Rotate and hold the control to tune in a specific station.

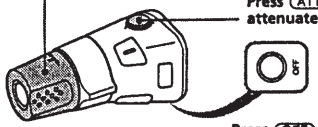
By pushing in and rotating the control (the PRESET/DISC control)



Push in and rotate the control to:
- Receive the stations memorized on the number buttons.
- Change the disc.

Other operations

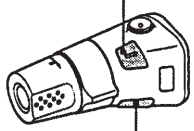
Rotate the VOL control to adjust the volume.



Press (ATT) to attenuate the sound.

Press (OFF) to turn off the unit.

Press (SOUND) to adjust the volume and sound menu.

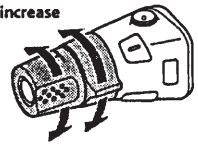


Press (LIST) to display the memorized names.

Changing the operative direction

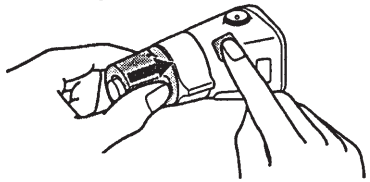
The operative direction of controls is factory-set as in the illustration below.

To increase



To decrease

If you need to mount the rotary commander on the right side of the steering column, you can reverse the operative direction.



Press (SOUND) for two seconds while pushing the VOL control.

Tip
You can control the operative direction of controls with the unit (page 18).

Adjusting the sound characteristics

You can adjust the bass, treble, balance and fader.
Each source can store the bass and treble levels respectively.

1 Select the item you want to adjust by pressing (SOUND) repeatedly.

VOL (volume) → SUB (subwoofer volume) → BAS (bass) → TRE (treble) → BAL (left-right) → FAD (rear-front)

2 Adjust the selected item by rotating the dial.
Adjust within three seconds after selecting the item. (After three seconds, the dial functions as the volume control.)

Attenuating the sound

Press (ATT) on the rotary commander or optional wireless remote.
"ATT on" flashes momentarily.

To restore the previous volume level, press (ATT) again.

Tip
The unit decreases the volume automatically when a telephone call comes in (Telephone ATT function).

Changing the sound and display settings

You can set:
- Clock (page 7).
- D.Info (Dual Information) - to display the clock and the play mode at the same time (ON) or to display the information alternately (OFF).
- Amber/Green - to change the illumination color to amber or green.
- Dimmer to - change the brightness of the display.
  - — Select "Auto" to dim the display only when you turn the lights on.
  - — Select "on" to dim the display.
- Contrast to adjust the contrast if the indications in the display are not recognizable because of the unit's installed position.
- Voice guide function for vocalized comments.
  - — Select "Voice 1" to turn the voice guide to minimum volume.
  - — Select "Voice 2" to turn the voice guide to middle volume.
  - — Select "Voice 3" to turn the voice guide to maximum volume.
  - — Select "Voice off" to cancel the voice guide function.
- Beep to turn on or off the beeps.
- RM (Rotary Commander) - to change the operative direction of the controls of the rotary commander.
  - — Select "norm" to use the rotary commander as the factory-set position.
  - — Select "rev" when you mount the rotary commander on the right side of the steering column.
- BBE to - enjoy bass and treble even at low volume. The bass and treble will be reinforced.
  - — Select "BBE 1" to reinforce the bass and treble.
  - — Select "BBE 2" to reinforce the bass and treble more effective than "BBE 1."
  - — Select "BBE off" to deactivate BBE.
- DF (Digital Filter) - to select the type of filter you want, you can adjust the sound to much your unit, your speaker, the music source, etc.
  - — The digital filter appear its presetted when you select "normal."
  - — The pre-ringing and post-ringing will be minimize when you select "slow."
- LPF (Low Pass Filter).
- A.Scrl (Auto Scroll) (page 9, 19).

1 **Press (SHIFT).**

2 **Press ③ (SET UP) repeatedly until the desired item appears.**

Each time you press ③ (SET UP), the item changes as follows:

Clock → D.Info*1 → Amber/Green → Dimmer → Contrast → Voice*1 → Beep → RM → BBE*1 → DF*2 → LPF*1 → A.Scrl*1

*1 *When you have not tune the station or there is no CD/MD being played, these items will not appear.*
*2 *DF does not work when the disc playback in optional CD/MD changer.*

Notes
- *The displayed item will differ depending on the source.*
- *If an optional digital preamplifier is connected to the unit, BBE and Voice guide function does not works.*

3 **Press ⑤ (→) to select the desired setting (for example: on or off).**
For the "Contrast" setting, pressing ⑤ (→) makes the contrast higher, and pressing ② (←) makes the contrast lower.

4 **Press (SHIFT).**
After the mode setting is complete, the display goes back to normal playback mode.

Adjusting the frequency of the subwoofer(s)

To match the characteristics of the connected subwoofer(s), you can cut out the unwanted high and middle frequency signals entering the subwoofer(s). By setting the cut-off frequency, the subwoofer(s) will output only low frequency signals so you can get a clearer sound image.

1 **Press (SOURCE) to select a source (radio, CD or MD).**

2 **Press (SHIFT), then press ③ (SET UP) repeatedly until "LPF" appears.**

3 **Press ⑤ (→) or ② (←) repeatedly to select desired setting.**

Each time you press ⑤ (→) or ② (←), the cut-off frequency in the display changes as follows:

LPF off ⟷ LPF 80 Hz ⟷ LPF 120 Hz

4 **Press (SHIFT).**
When the frequency setting is complete, the display goes back to the normal playback mode.

With Optional Equipment

CD/MD Unit

You can control up to 7 CD and MD units with this unit.
If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear in the display when you play back a CD TEXT disc.

Playing a CD or MD

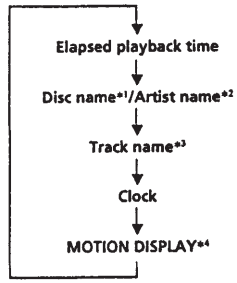
1 **Press (SOURCE) repeatedly to select the CD or MD.**

2 **Press (MODE) until the desired unit appears.**
CD/MD playback starts.

When a CD/MD unit is connected, all the tracks play from the beginning.

Changing the displayed item

Each time you press (DSPL) during CD, CD TEXT or MD playback, the item changes as follows:



*1 *If you have not labeled the disc or there is no disc name prerecorded on the MD, "NO D.Name" appears in the display.*
*2 *If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)*
*3 *If the track name of a CD TEXT disc or MD is not prerecorded, "NO T.Name" appears in the display.*
*4 *All the items above are scrolled in the display one by one in order.*

You can label CD and CD TEXT discs with a personalized name using the disc memo function, refer to "Labeling a CD" (page 23). However, if you use personalized labels, they will always take priority over the original CD TEXT information when such information is displayed.

Tips
- *If the name of the MD or CD TEXT disc is too long, you can scroll it across the display by pressing (SHIFT), then ② (←).*
- *If you want to display the original CD TEXT information after labelling the CD TEXT disc with a personalized name, press (SHIFT), then ⑤ (→).*

Automatically scrolling a disc name — Auto Scroll

If the disc name/artist name or track name on a CD TEXT disc or MD exceeds 10 characters and the Auto Scroll function is on, automatically scrolls on the display as follows:
- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*

If you press (DSPL) to change the display item, the disc or track name of the MD or CD TEXT disc is scrolled automatically whether you set the function on or off.

1 **During playback, press (SHIFT).**

2 **Press ③ (SET UP) repeatedly until "A.Scrl" appears.**

3 **Press ⑤ (→) to select "A.Scrl on."**

4 **Press (SHIFT).**

To cancel Auto Scroll, select "A.Scrl off" in step 3 above.

Note
For some CD TEXT discs with a lot of characters, the following cases may happen:
— Some of the characters are not displayed.
— Auto Scroll does not work.

Locating a specific track
— Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down once for each track you want to skip.

To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track
— Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward

To search backward

Locating a disc by disc number
— Direct Disc Selection

Press the number button that corresponds with the desired disc number.
The desired disc in the current unit begins playback.

Scanning the tracks
— Intro Scan

You can play the first 10 seconds of all the tracks on the current disc.

1 During playback, press (SHIFT), then press ④ (PLAY MODE) repeatedly until "Intro" appears.

2 Press ⑤ (→) to select "Intro on."
Intro Scan starts.

3 Press (SHIFT).

To return to normal playback mode, select "Intro off" in step 2 above.

Playing tracks repeatedly
— Repeat Play

You can select:
- Repeat 1 - to repeat a track.
- Repeat 2 - to repeat a disc.

1 During playback, press (SHIFT).

2 Press ⑦ (REP) repeatedly until the desired setting appears.

→ Repeat 1 → Repeat 2 →
← Repeat off ←

Repeat Play starts.

3 Press (SHIFT).

To go back to normal playback mode, select "Repeat off" in step 2 above.

Playing tracks in random order — Shuffle Play

You can select:
- Shuf 1 - to play the tracks on the current disc in random order.
- Shuf All - to play all the tracks in random order.

1 During playback, press (SHIFT).

2 Press ⑧ (SHUF) repeatedly until the desired setting appears.

→ Shuf 1 → Shuf All →
← Shuf off ←

Shuffle Play starts.

3 Press (SHIFT).

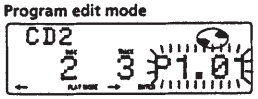
To return to normal playback mode, select "Shuf off" in step 2 above.

Creating a program
— Program Memory (CD/MD unit with the program memory function)

You can play tracks in the order you want by making your own program. You can make two programs: Program 1 and Program 2. You can select up to 12 tracks for each program. You can store the programs in memory.

1 Press (SHIFT), then press ④ (PLAY MODE) for two seconds.

Program edit mode



"P 1" shows Program 1 is selected.

If you have labelled the disc, the bank edit mode appears. Press ④ (PLAY MODE) to display "P 1" above.

To select Program 2, press ⑤ (→) repeatedly until "P 2" appears.

2 Select the track you want.
❶ Press (SOURCE) repeatedly to select CD or MD.

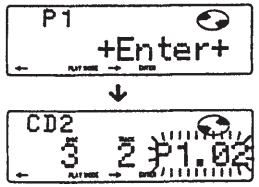
❷ Press (MODE) repeatedly to select the unit.

❸ Press (SHIFT), then press the number button to select the disc.

❹ Press (SHIFT).

❺ Push the SEEK/AMS control up or down to select the track.

3 Press ⑥ (ENTER) momentarily.



4 To continue entering tracks, repeat steps 2 and 3.

5 When you finish entering tracks, press ④ (PLAY MODE) for two seconds.

6 Press (SHIFT).

Notes
- *"*Wait*" appears in the display while the unit is reading the data, or when a disc has not been put into the unit.*
- *"*Mem Full*" appears in the display when you try to enter more than 12 tracks into a program.*

Playing the stored program
Changing the disc order in the unit will not affect program memory play.

You can select:
- PGM 1 - to play Program 1.
- PGM 2 - to play Program 2.
- PGM 1+2 - to play Programs 1 and 2.

1 Press (SHIFT).

2 Press ④ (PLAY MODE) repeatedly until "PGM" appears.

3 Press ⑤ (→) repeatedly until the desired program appears.

→ PGM 1 → PGM 2 → PGM 1+2 →
← PGM off ←

Program Play starts.

4 Press (SHIFT).

To go back to normal playback mode, select "PGM off" in step 3 above.

Notes
- *If you press a number button during program memory play, program memory play is interrupted, and playback of the selected disc starts.*
- *"NO Data" appears in the display if no track is stored in the program.*
- *If a track stored into the program memory is not in the disc magazine, the track will be skipped.*
- *When the disc magazine contains no tracks stored into the program memory, or when the program information has not been loaded yet, "Not ready" appears.*

EN

– 12 –

EN

CD/MD Unit

Erasing an entire program

1 Press (SHIFT), then press ④ (PLAY MODE) for two seconds.

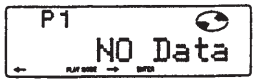
"P 1" indicates Program 1 is selected.

If you have labelled the disc, the bank edit mode appears. Press ④ (PLAY MODE) to display "P 1" above.

2 Press ② (←) repeatedly until "DEL" appears.

To erase Program 2, press ⑤ (→) repeatedly until "PGM 2" appears.

3 Press ⑥ (ENTER) for two seconds.



The entire program is erased.

4 When you finish erasing programs, press ④ (PLAY MODE) for two seconds.

5 Press (SHIFT).

Adding tracks to a program

1 Press (SHIFT), then press ④ (PLAY MODE) for two seconds.

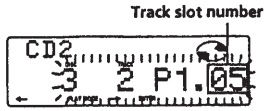
"P 1" indicates Program 1 is selected.

If you have labelled the disc, the bank edit mode appears. Press ④ (PLAY MODE) to display "P 1" above.

To select Program 2, press ⑤ (→) repeatedly until "P 2" appears.

2 Press ② (←) or ⑤ (→) to select the track slot number where you want to insert a track.

Track slot number



3 Push the SEEK/AMS control up or down to select the track you want to insert.

4 Press ⑥ (ENTER) momentarily to enter the track.
The current track is inserted in that slot number and the succeeding tracks shift down.
To continue inserting tracks, repeat steps 2 through 4.

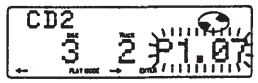
Note
*Once all 12 slots have been filled, "*Mem Full*" appears in the display, and you cannot insert tracks.*

5 When you finish inserting tracks, press ④ (PLAY MODE) for two seconds.

6 Press (SHIFT).

Erasing tracks in a program

1 Press (SHIFT), then press ④ (PLAY MODE) for two seconds.



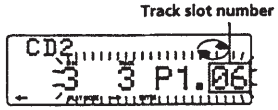
"P 1" indicates Program 1 is selected.

If you have labelled the disc, the bank edit mode appears. Press ④ (PLAY MODE) to display "P 1" above.

To select Program 2, press ⑤ (→) repeatedly until "P 2" appears.

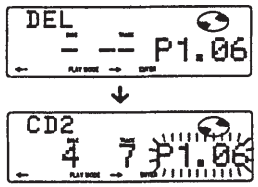
2 Press ② (←) or ⑤ (→) to select the track you want to erase.

Track slot number



The track currently registered in slot 6 of Program 1.

3 Press ⑥ (ENTER) for two seconds.
When you erase a track from a slot number, the succeeding tracks shift up to fill the gap.



4 To continue erasing tracks, repeat steps 2 and 3.

5 When you finish erasing tracks, press ④ (PLAY MODE) for two seconds.

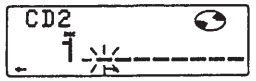
6 Press (SHIFT).

Labeling a CD

— Disc Memo (CD unit with the custom file function)

You can label each disc with a personalized name. You can enter up to eight characters for a disc. If you label a CD, you can locate the disc by name (page 25) and select the specific tracks for playback (page 25).

1 Play the CD and press (LIST) for two seconds.



2 Enter the characters.

❶ Rotate the dial clockwise to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → - → * → / → \ → > → < → . → _)

If you rotate the dial counterclockwise, the characters appear in the reverse order.
If you want to put a blank space between characters, select "_" (under-bar).

❷ Press ⑤ (→) after locating the desired character.
The flashing cursor moves to the next space.

If you press ② (←), the flashing cursor moves to the left.

❸ Repeat steps ❶ and ❷ to enter the entire name.

3 To return to normal CD playback mode, press (LIST) for two seconds.

Tip
To erase/correct a name enter "_" (under-bar) for each character.

EN

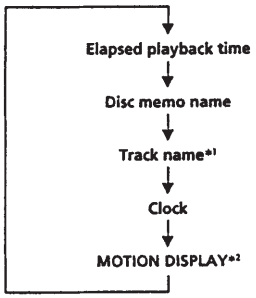
– 13 –

CD/MD Unit

Displaying the disc memo name

Press (DSPL) during CD or CD TEXT disc playback.

Each time you press (DSPL) during CD or CD TEXT disc playback, the item changes as follows:



*1 *If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear in the display when you playback a CD TEXT disc.*

*2 *All the items above are scrolled in the display one by one in order.*

Erasing the disc memo

1 Press (SOURCE) repeatedly to select CD.

2 Press (MODE) repeatedly to select the CD unit.

3 Press (LIST) for two seconds.

4 Press (DSPL) for two seconds.

5 Rotate the dial to select the name you want to erase.

6 Press (6) (ENTER) for two seconds.
The name is erased.
Repeat steps 5 and 6 if you want to erase other names.

7 Press (LIST) for two seconds.
The unit returns to normal CD playback mode.

Note
When the personalized label is erased, the original CD TEXT information will appear in the display.

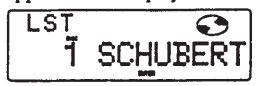
EN

Locating a disc by name

— List-up (CD unit with the custom file function or MD unit)

You can use this function for discs that have been assigned a custom name. For more information on disc names, refer to "Labeling a CD" (page 23).

1 Press (LIST) momentarily.
The name assigned to the current disc appears in the display.



When you assign a disc memo label to a CD TEXT disc, it takes priority over the original CD TEXT information.

2 Press (LIST) repeatedly until you find the desired disc.

3 Press (6) (ENTER) to play back the disc.

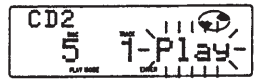
Notes
- *After a disc name has been displayed for five seconds, the display goes back to normal playback mode. To turn off the display, press (DSPL).*
- *The track names are not displayed during MD or CD TEXT disc playback.*
- *If there are no discs in the magazine, "NO Disc" appears in the display.*
- *If a disc has not been assigned a custom file, "********" appears in the display.*
- *If the disc information has not been read by the unit, "?" appears in the display. To load the disc, first press the number button, then choose the disc that has not been loaded.*
- *The information appears only in upper case. There are also some letters which cannot be displayed (during MD or CD TEXT disc playback).*

Selecting specific tracks for playback

— Bank (CD unit with the custom file function)

If you label the disc, you can set the unit to skip tracks and play only the tracks you want.

1 Start playing the disc and press (SHIFT). Then press (4) (PLAY MODE) for two seconds.
Bank edit mode.



Note
If you have not labeled the disc, the bank edit mode does not appear and the program edit mode appears. To go back to normal playback mode, press (SHIFT).

2 Push the SEEK/AMS control up or down to select the track number you want to skip and press (6) (ENTER).

The indication changes from "Play" to "Skip." If you want to return to"Play," press (6) (ENTER) again.

3 Repeat step 2 to set the "Play" or "Skip" mode on all the tracks.

4 Press (4) (PLAY MODE) for two seconds.
The unit returns to normal CD playback mode.

5 Press (SHIFT).

Notes
- *You can set the "Play" and "Skip" mode on up to 24 tracks.*
- *You cannot set the "Skip" mode on all the tracks.*

EN

Playing the specific tracks only

You can select:
- Bank on - to play the tracks with the "Play" setting.
- Bank inv (Inverse) - to play the tracks with the "Skip" setting.

1 During playback, press SHIFT, then press 4 (PLAY MODE) repeatedly until "Bank" appears.

2 Press 5 (→) to repeatedly until the desired setting appears.

→ Bank on → Bank inv → Bank off

Playback starts from the track following the current one.

3 Press SHIFT.

To go back to normal playing mode, select "Bank off" in step 2 above.

With Optional Equipment

DSP

The optional XDP-U50D lets you add some effects to the sound field of the currently selected source.

Note
If you connect the optional digital preamplifier XDP-U50D/210EQ, the voice guide function will not work.

Selecting a surround menu

You can select a desired surround menu to best fit the audio source. The following menus can simulate different sound fields and enhance the sound so that you can feel as if you are in a live concert.

Surround menu

HALL	Concert hall
JAZZ	Jazz club
DISCO	Disco with thick walls
THEATER	Movie theater
PARK	Big open space
LIVE	Live concert
OPERA	Opera house
CHURCH	Church/chapel with a lot of reverberation
STADIUM	Open-air concert in a stadium
CELLAR	Cellar with a lot of reverberation
DEFEAT	Normal sound without any DSP effects

1 Press SOURCE to select a source (tuner, CD or MD).

2 Press SOUND repeatedly until "SUR" appears.

3 Rotate the dial to select the desired surround menu.
The surround menu appears in the order shown above.

After three seconds, the display goes back to the normal playback mode.

Adjusting the effect level

1 Press SOURCE to select a source (tuner, CD or MD).

2 Press SOUND for two seconds.

3 Rotate the dial to select until the desired surround menu appears.

4 Press 5 (→).

5 Rotate the dial to adjust the level.
You can adjust the level from 0 to 100%. Increase the level to enhance the effect.

6 Press SOUND for two seconds.

Storing a surround effect onto CDs

— Digital Signal Processor (DSP) Custom File (CD unit the with custom file function)

Once you have registered the desired surround menu onto the discs, you can enjoy the same surround menu every time you play them. (Only when you have labeled a disc by the Custom File function.)

1 Press LIST for two seconds.

2 Press LIST until the surround menu appears.
DSP custom file mode

3 Rotate the dial to select the desired surround menu.

4 Press LIST for two seconds.
After the effect setting is complete, the display goes back to the normal playback mode.

Playing the disc with the stored surround menu

1 Press SHIFT, then press 3 (PLAY MODE) repeatedly until "D.File" appears.

2 Press 5 (→) to select "D.File on."
After five seconds, the display goes back to normal playback mode.

3 Press SHIFT.

To cancel to play the disc with stored surround menu, select "D.File off" in step 2 above.

Changing the stored surround effect

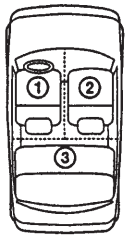
Play the disc whose surround mode you want to change, and follow the steps of "Storing the surround effect onto the CDs."

Erasing the stored surround effect

Select "DEFEAT" in step 3 of "Storing the surround effect onto the CDs."

Selecting the listening position

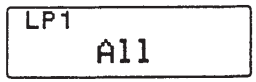
You can set the time for the sound to reach the listeners from the speakers.
The unit can simulate a natural sound field so that you can feel as if you are in the center of the sound field wherever you sit in the car.



Display window	Center of sound field
LP1 All	Normal setting (① + ② + ③)
LP2 Front	Front part (① + ②)
LP3 Front R	Right front (②)
LP4 Front L	Left front (①)
LP5 Rear	Rear part (③)

EN

1 Press (SOUND) momentarily until "LP1" appears.



2 Rotate the dial to select the desired listening position.
The listening positions appear in the order shown above.

After three seconds, the display goes back to the normal playback mode.

Adjusting the listening position

1 Press (SOUND) for two seconds.

2 Press (SOUND) repeatedly until the desired listening position appears.

3 Press ⑤ (→).

4 Rotate the dial to adjust the center of the sound field to the left or right. Then set the center of the sound field.

Center moves to the L (left).

Center moves to the R (right).

5 Press ⑤ (→).

6 Rotate the dial to adjust the center of the sound field to the front or rear.

Center moves to the R (rear).

Center moves to the F (front).

7 Press (SOUND) for two seconds.
When the effect setting is complete, the normal playback mode appears.

Adjusting the fader (FAD)

Normally, with the DSP mode on, the volume of the output sound from the rear speakers is lowered automatically to improve the efficiency of the listening position setting. If you want to raise the rear speaker volume, adjust the fader.

1 Follow steps 1 to 3 of "Selecting a surround menu" (page 26).

2 Press (SOUND) repeatedly until "FAD" appears.

3 Rotate the dial to adjust the fader.

Decreases front speaker volume

Increases front speaker volume

After three seconds, the display goes back to the normal playback mode.

Adjusting the volume of the subwoofer(s)

1 Press (SOURCE) to select a source (tuner, CD or MD).

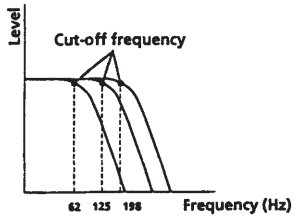
2 Press (SOUND) repeatedly until "SUB" appears.

3 Rotate the dial to adjust the volume.
After three seconds, the display goes back to the normal playback mode.

Tip
When you rotate the dial to turn the volume all the way down, "Sub mute" appears and the cutout frequency of the subwoofer is disabled.

Adjusting the frequency of the subwoofer(s)

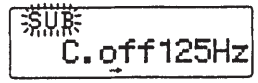
To match the characteristics of the connected subwoofer(s), you can cut out the unwanted high and middle frequency signals entering the subwoofer(s). By setting the cut-off frequency (see the diagram below), the subwoofer(s) will output only low frequency signals so you can get a clearer sound image.



1 Press (SOURCE) to select a source (tuner, CD or MD).

2 Press (SOUND) for two seconds.

3 Press (SOUND) repeatedly until "SUB" appears.



4 Rotate the dial to select the desired cut-off frequency.
The cut-off frequency in the display changes.

62 → 78 → 99 → 125* → 157 → 198 Hz
* Factory-set frequency

5 Press (SOUND) for two seconds.
After the frequency setting is complete, the display goes back to the normal playback mode.

EN
DSP

Adjusting the volume of the bass and treble

You can adjust the volume of the bass and treble to best fit the acoustic characteristics inside your car.

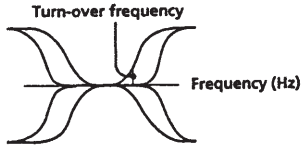
1 Press (SOURCE) to select a source (tuner, CD or MD).

2 Press (SOUND) repeatedly until "BAS" or "TRE" appears.

3 Rotate the dial to adjust the volume.
After three seconds, the display goes back to the normal playback mode.

Adjusting the turn-over frequency

You can adjust the bass and treble turn-over frequencies.

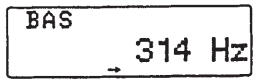


1 Press (SOURCE) to select a source (tuner, CD or MD).

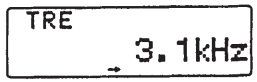
2 Press (SOUND) for two seconds.

3 Press (SOUND) repeatedly until "BAS" or "TRE" appears.

Bass adjusting mode



Treble adjusting mode



4 Rotate the dial to select the turn-over frequency.
The turn-over frequencies change as follows:

Bass:
198 Hz → 250 Hz → 314 Hz* → 396 Hz

Treble:
2.0 kHz → 3.1 kHz* → 4.0 kHz → 5.0 kHz

* Factory-set frequency

5 Press (SOUND) for two seconds.
The display goes back to the normal playback mode.

Listening to each program source in its registered surround menu

— Last Sound Memory (LSM)

You can listen to the same source always in the same surround menu even after changing the program source or turning the unit on and off again.

Changing the line output level

You can change the line output level if you hear distortion or other noise.

1 Press (SHIFT), then press ③ (SET UP) until "L.out" appears.

2 Press ⑤ (→) to select the desired setting (–10 dB or –16 dB).

3 Press (SHIFT).

With Optional Equipment

TV/Video

You can connect an optional TV tuner and TV monitor with this unit.

Watching the TV

1 Press (SOURCE) repeatedly until "TV" appears.

2 Push the SEEK/AMS control up or down to select the desired TV band.

Watching a video

1 Press (SOURCE) repeatedly until "TV" appears.

2 Press (MODE) repeatedly to select "Video 1."
Play back the video.

Note
"Video 2" appears if the VIDEO 2 terminal of the TV monitor is selected.

Memorizing TV channels automatically

The unit selects the TV channels with the strongest signals and memorizes them in the order of their frequency.

Caution
When tuning in a station while driving, use Best Tuning Memory to prevent accidents.

1 Press (SOURCE) repeatedly until "TV" appears.

2 Press (SHIFT), then press ④ (PLAY MODE) repeatedly until "Auto mem" appears.

3 Press ⑤ (→).
The unit stores TV channels in the order of their frequencies on the number buttons.
A beep sound and the setting is stored.

4 Press (SHIFT).

Notes
- *The unit does not store TV channels with weak signals. If only a few TV channels are received, some number buttons will remain empty.*
- *When a preset number is indicated in the display, the unit starts storing TV channels from the one currently displayed.*

Memorizing only the desired TV channels

You can store up to 10 channels on the number buttons in the order of your choice.

1 Press (SOURCE) repeatedly until "TV" appears.

2 Push the SEEK/AMS control up or down to tune in the TV program you want to store on the number button.

3 Press and hold the desired number button (① to ⑩) until you hear a beep tone.
The number button indication appears in the display.

Note
If you try to store another program on the same number button, the previously stored program will be erased.

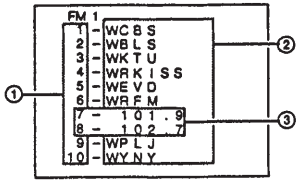
Storing the TV channel names

Follow the steps in "Storing the station names" (page 14).

Displaying the TV or radio station names

Press (LIST) momentarily during TV or radio reception.

Example: When receiving the FM1 band



① Preset number
② Stored station names
③ Frequencies*

* *If the name of a station is not stored, the frequency of that station will be displayed instead.*

Notes
- *It may take some time before all indications appear in the display.*
- *The TV monitor does not appear during list display.*
- *The contents of the preset memory cannot be listed when the unit is in the simultaneous play mode (page 33).*

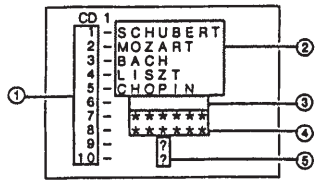
Turning off the display

During radio reception, press (LIST) again.
During TV reception, the list display on the TV monitor will automatically turn off after a few seconds.

Displaying the information stored on discs

Press (LIST) momentarily during CD/MD playback.

Example: When CD unit 1 is selected.



① Disc numbers
② Titles stored as custom files
③ No disc is loaded*1
④ No stored titles*2
⑤ TOC information has not been identified yet*3

*1 *A blank space is displayed next to a disc numbers representing empty slots in the disc magazine.*
*2 *If a title is not registered in the custom file, "******" is displayed.*
*3 *If the disc information has not been read yet, "?" is displayed.*

Notes
- *It may take some time until all indications appear in the display.*
- *The TV program does not appear during list display.*
- *The contents of the preset memory cannot be listed when the unit is in the simultaneous play mode.*

Turning off the display

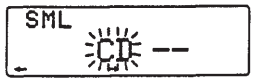
Press (LIST) again.

Watching the TV or video while listening to a CD or MD — Simultaneous Play

The simultaneous play function does not work while you are listening to the radio.

1 Press (SOURCE) for two seconds.

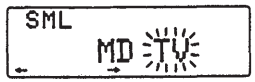
2 Press ② (←).



3 Press (SOURCE) repeatedly to select a CD or MD.

4 Press ⑤ (→).

5 Press (SOURCE) repeatedly to select a TV or video.



6 Press (SOURCE) for two seconds.
Simultaneous Play starts.

If you want to change the sound to CD or MD while watching the TV or video with its sound, please follow the steps, but press ⑤ (→) in step 2 and press ② (←) in step 4.

Returning to normal mode

To cancel the CD or MD, follow the steps above and select "– –" in step 3.

To cancel the TV or video, follow the steps above and select "– –" in step 5.

Note
If you press the EJECT button on a CD/MD unit while the unit is in simultaneous play mode, Simultaneous Play is canceled.

EN

Connections

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.
- The use of optical instruments with this product will increase eye hazard.

If your car has no accessory position on the ignition key switch — POWER SELECT switch

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear **if your car has no accessory position on the ignition key switch.** To avoid this battery wear, **set the POWER SELECT switch located on the bottom of the unit to the ❶ position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

Notes

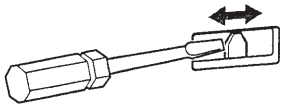
- *The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ❶ position.*
- *Do not use excessive force when changing the POWER SELECT switch.*

When a digital pre-amplifier etc. is connected — LINE-OUT/IN SELECT switch

Set the LINE-OUT/IN SELECT switch, which is on the underside of the unit, to position ❷, so that the LINE-OUT/IN terminal will function as LINE-IN terminal.
With the switch in position ①, the terminal will work as LINE-OUT terminal.

Notes

When you change the position of the switch, be sure to press the reset button after the connections are completed.



Reset button

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc.

Inverter

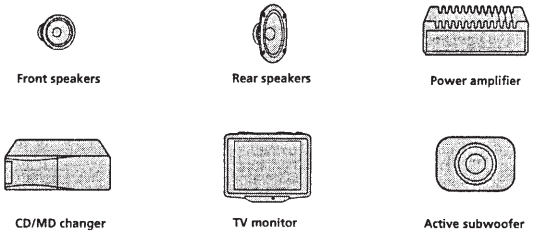
- Install the inverter far away from the unit using double-sided adhesive tape or something similar.
- Be sure not to mount the inverter under a mat or in a place exposed to splashing water of air conditioner. It may cause electric shock or damage to the unit.

Note

If the inverter's cord is pinched, the display indications may not appear.

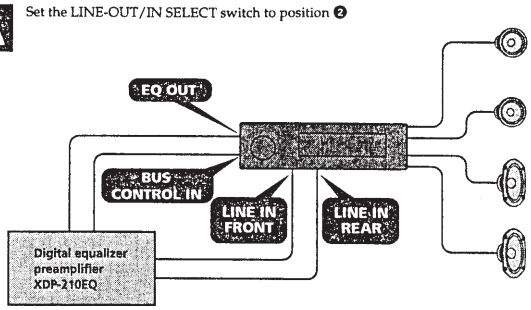
Equipment used in illustrations (not supplied)

For connecting two or more changers, the source selector XA-C30 (optional) is necessary.



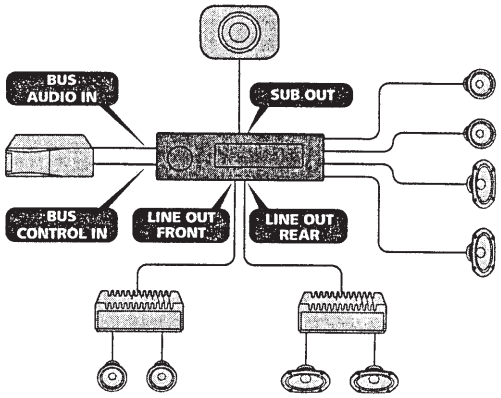
Connection diagram

A Set the LINE-OUT/IN SELECT switch to position ❷

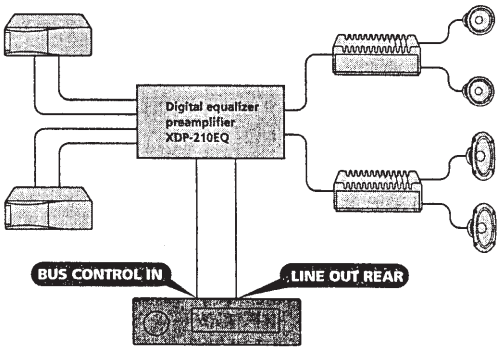


For details about the connection, refer to the operating instructions of XDP-210EQ (not supplied).

B Set the LINE-OUT/IN SELECT switch to position ①

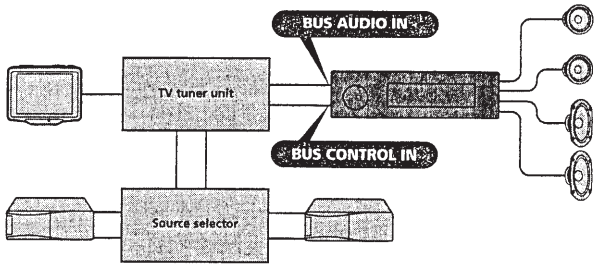


C Set the LINE-OUT/IN SELECT switch to position ①

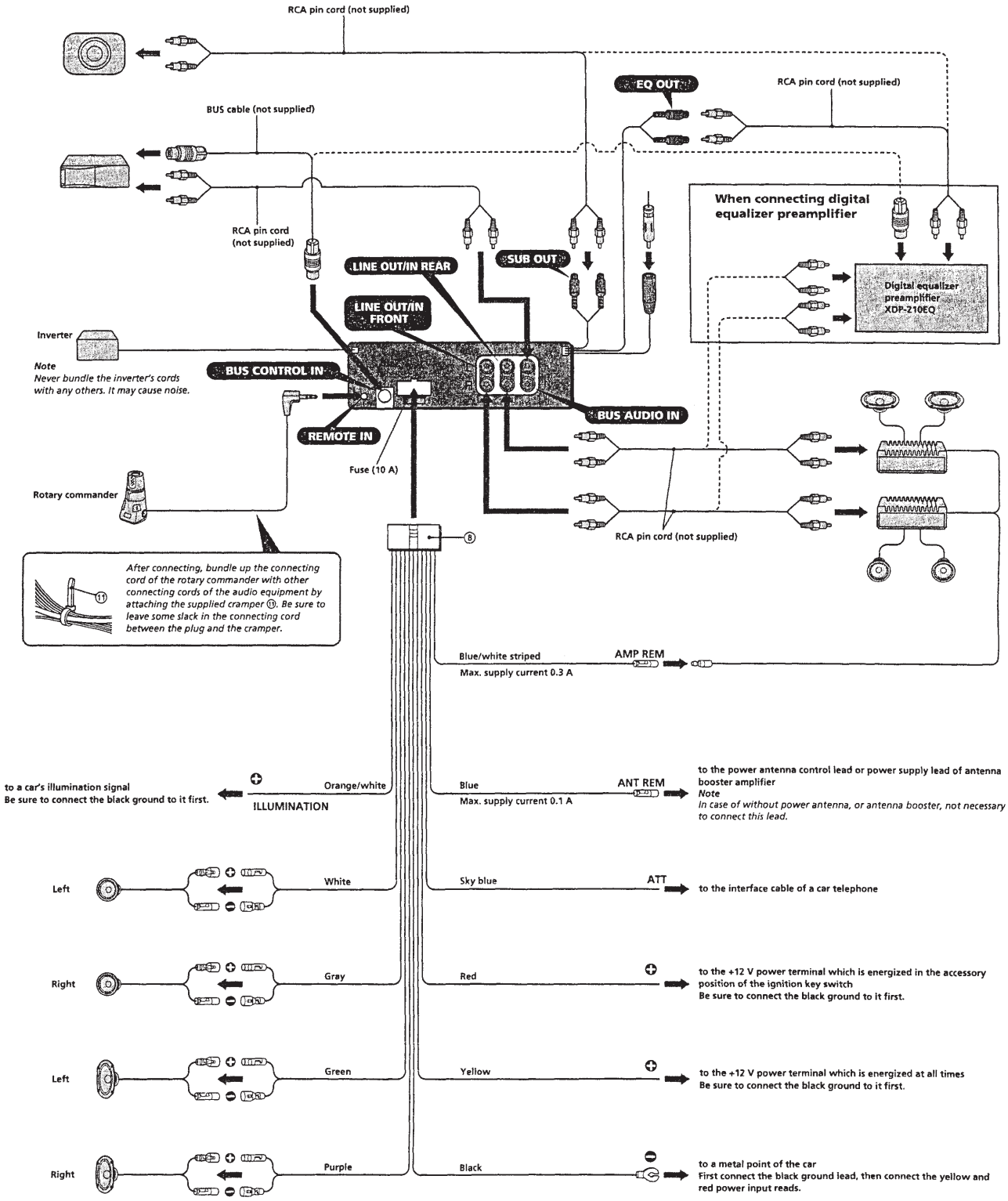


For details about the connection, refer to the operating instructions of XDP-210EQ (not supplied).

D



Connection example


RCA pin cord (not supplied)
BUS cable (not supplied)
RCA pin cord (not supplied)
EQ OUT
RCA pin cord (not supplied)
When connecting digital equalizer preamplifier
Digital equalizer preamplifier XDP-210EQ
RCA pin cord (not supplied)
LINE OUT/IN REAR
SUB OUT
LINE OUT/IN FRONT
Inverter
Note
Never bundle the inverter's cords with any others. It may cause noise.
BUS CONTROL IN
BUS AUDIO IN
REMOTE IN
Fuse (10 A)
Rotary commander
After connecting, bundle up the connecting cord of the rotary commander with other connecting cords of the audio equipment by attaching the supplied cramper ⑪. Be sure to leave some slack in the connecting cord between the plug and the cramper.
RCA pin cord (not supplied)
Blue/white striped
AMP REM
Max. supply current 0.3 A
to a car's illumination signal
Be sure to connect the black ground to it first.
Orange/white
ILLUMINATION
Blue
ANT REM
Max. supply current 0.1 A
to the power antenna control lead or power supply lead of antenna booster amplifier
Note
In case of without power antenna, or antenna booster, not necessary to connect this lead.
Left
White
Sky blue
ATT
to the interface cable of a car telephone
Right
Gray
Red
to the +12 V power terminal which is energized in the accessory position of the ignition key switch
Be sure to connect the black ground to it first.
Left
Green
Yellow
to the +12 V power terminal which is energized at all times
Be sure to connect the black ground to it first.
Right
Purple
Black
to a metal point of the car
First connect the black ground lead, then connect the yellow and red power input reads.

Notes on the control leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner.*
- *A power antenna without relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

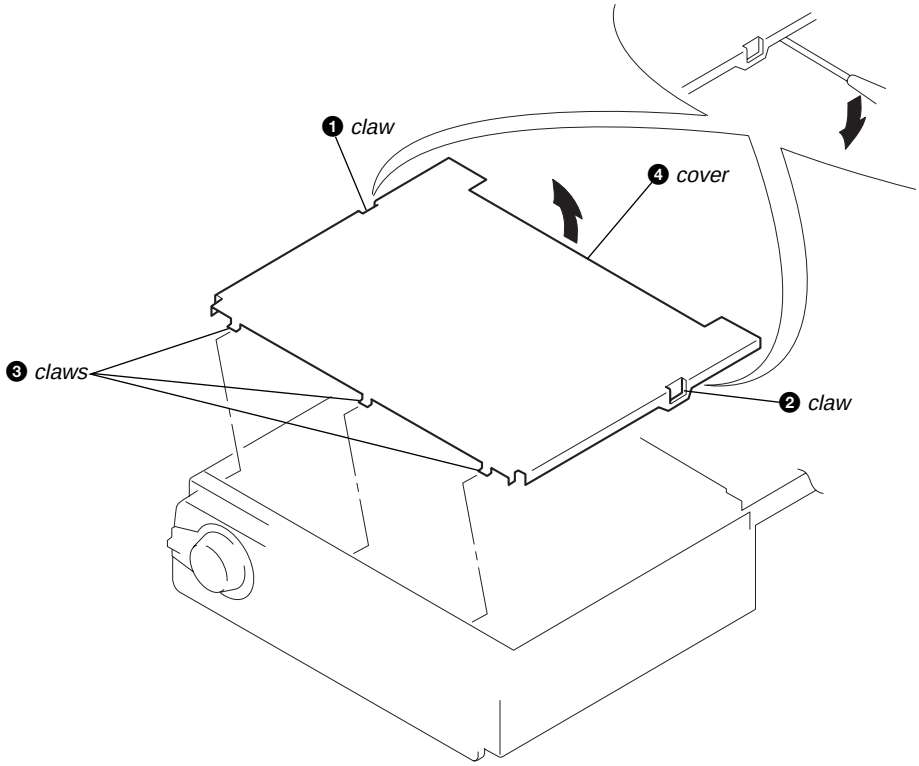
Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

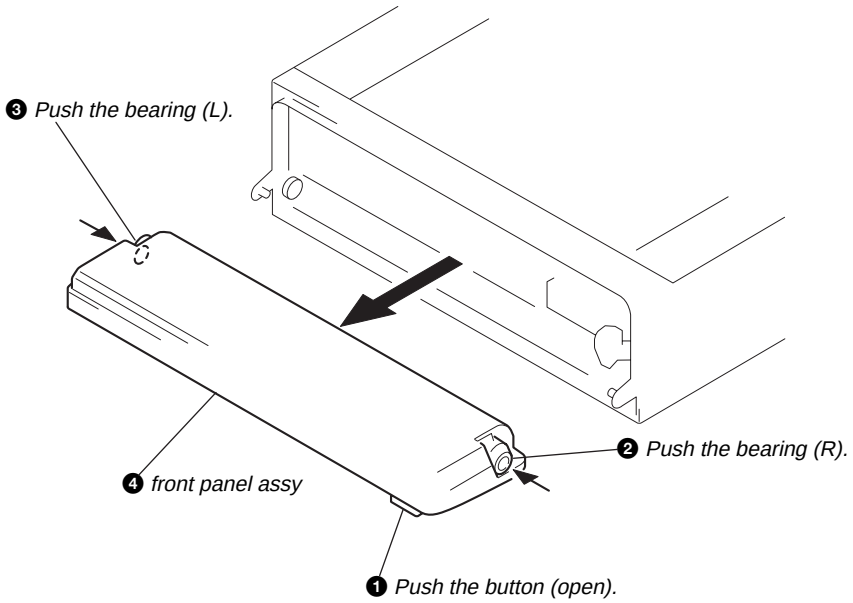
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

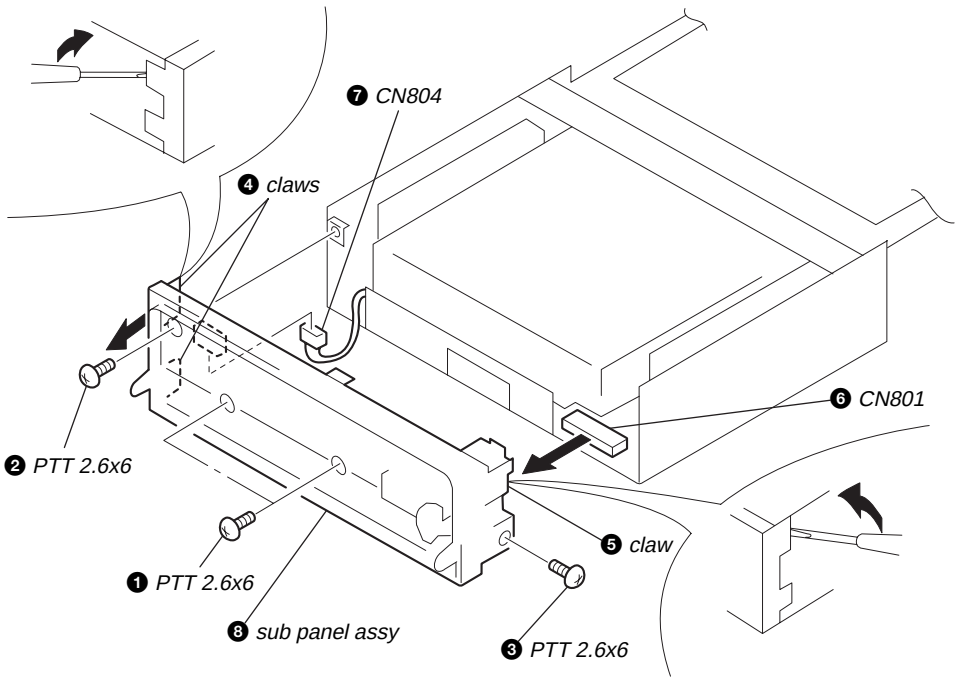
2-1. COVER



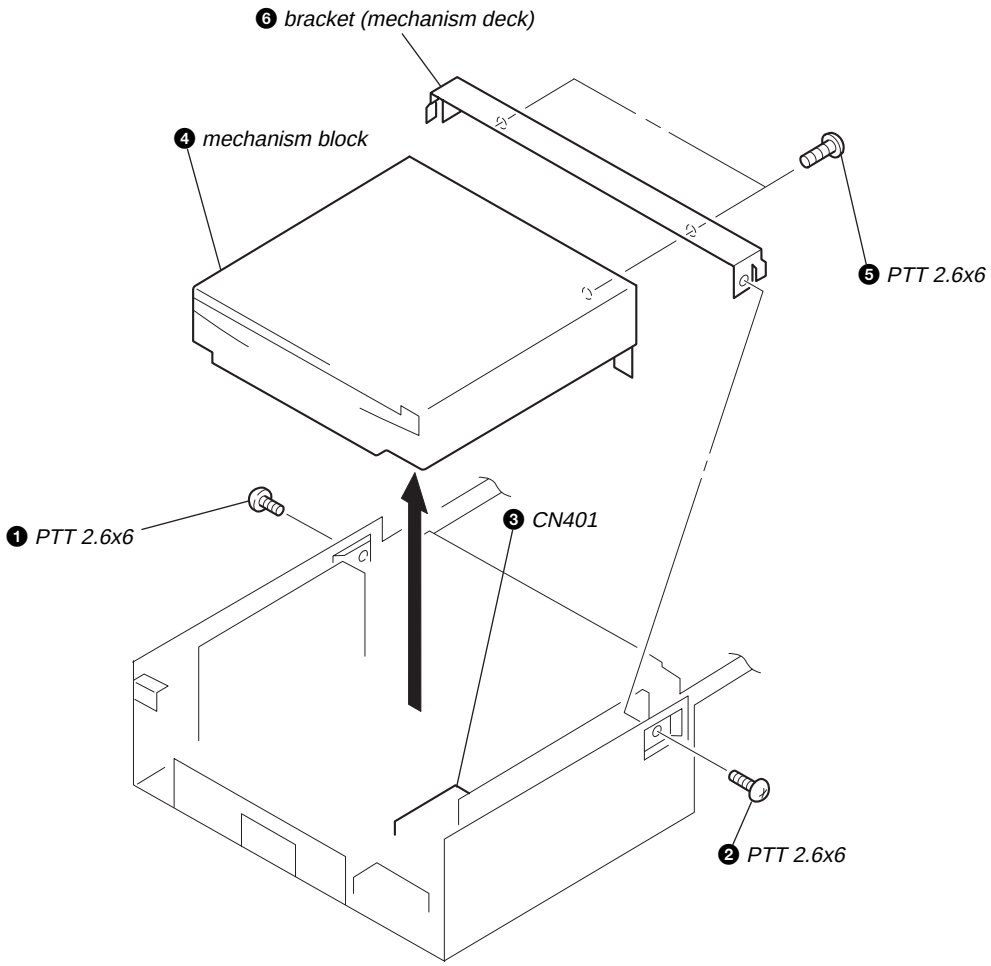
2-2. FRONT PANEL ASSY



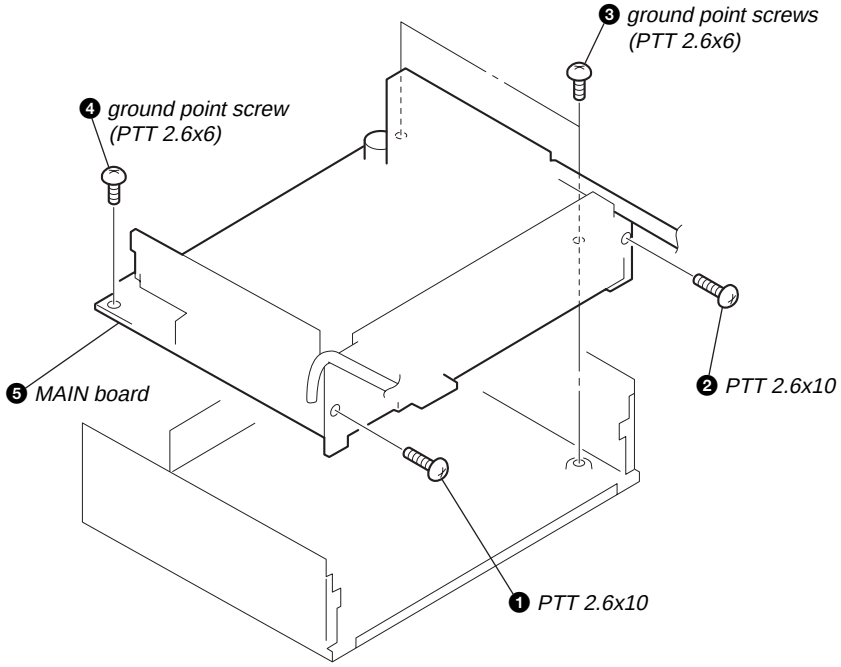
2-3. SUB PANEL ASSY



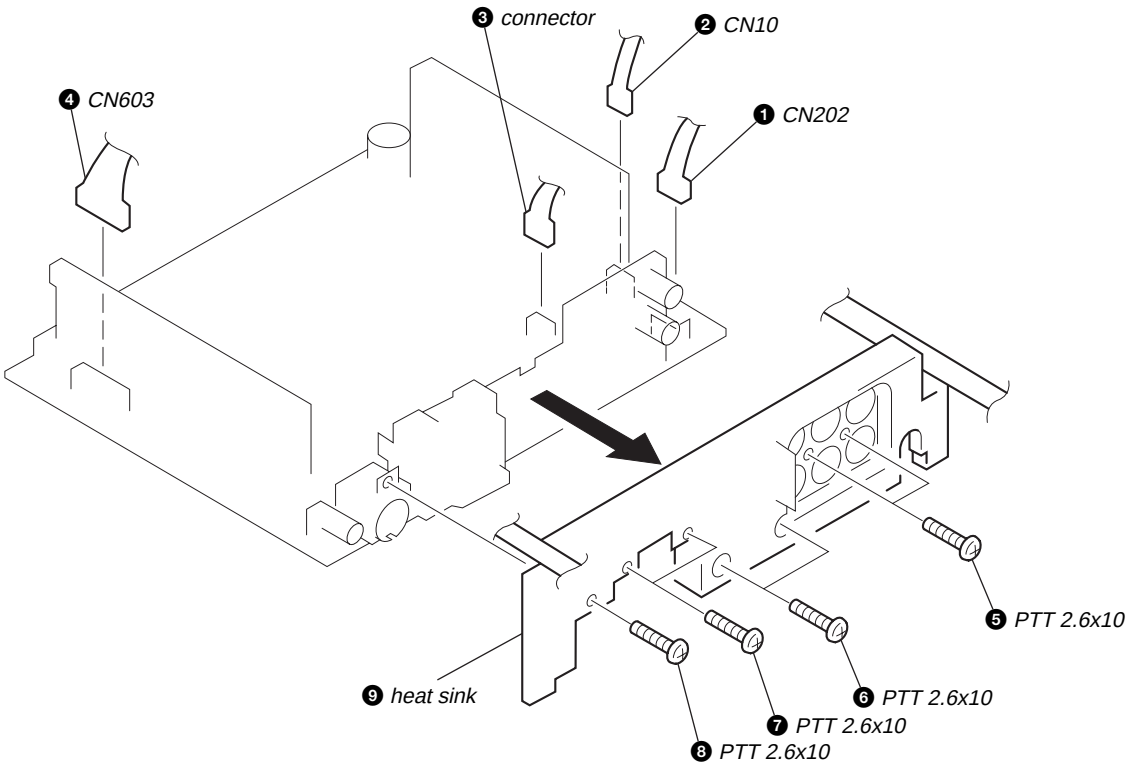
2-4. MECHANISM BLOCK



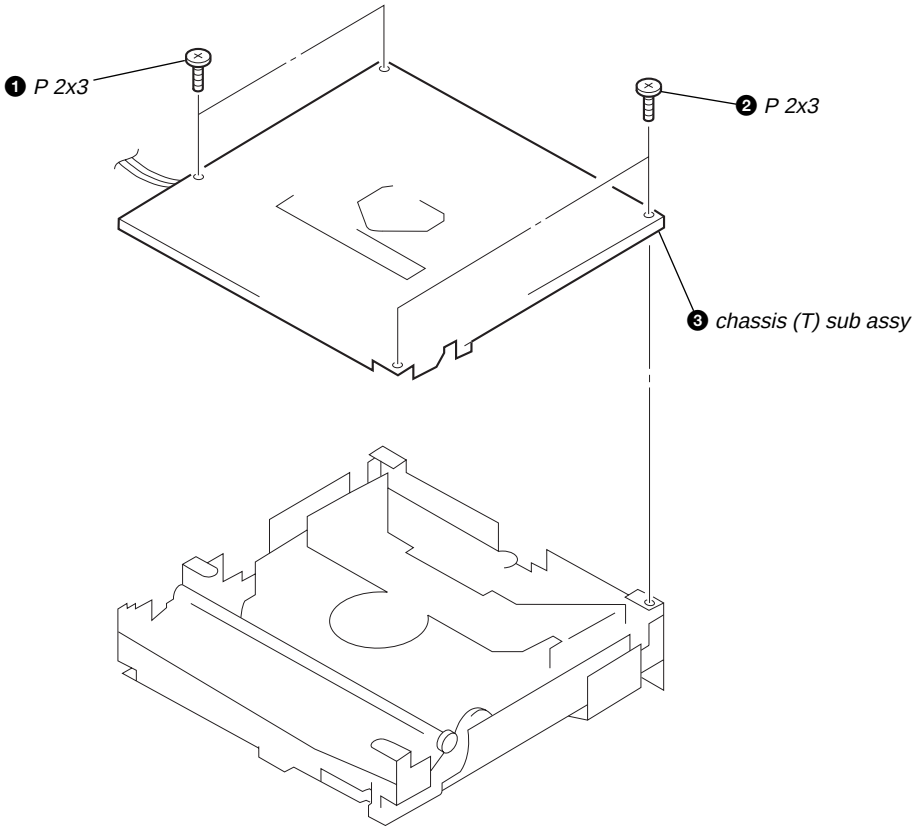
2-5. MAIN BOARD



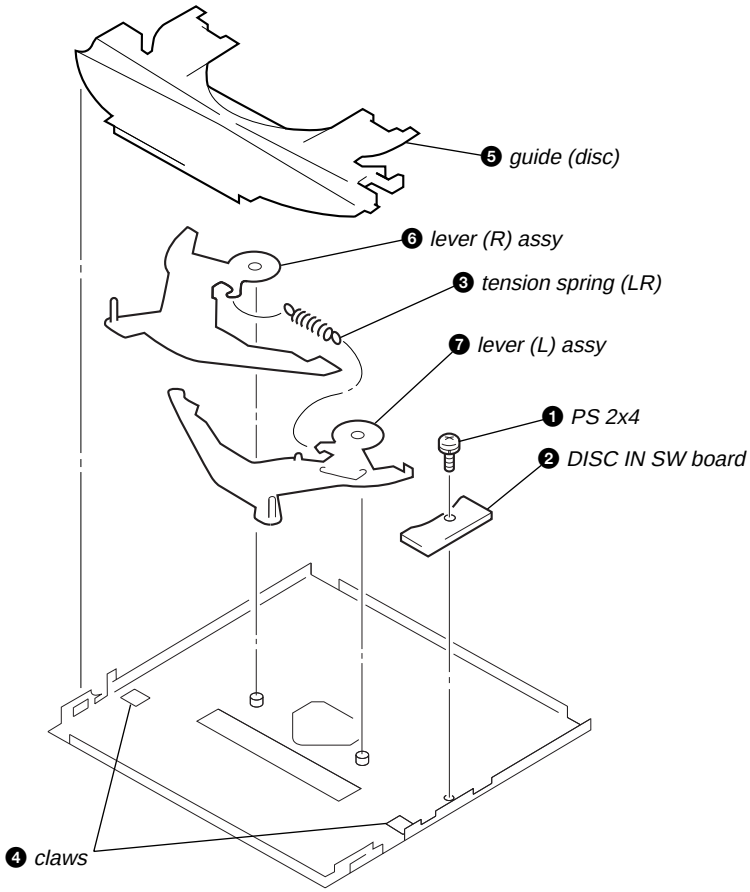
2-6. HEAT SINK



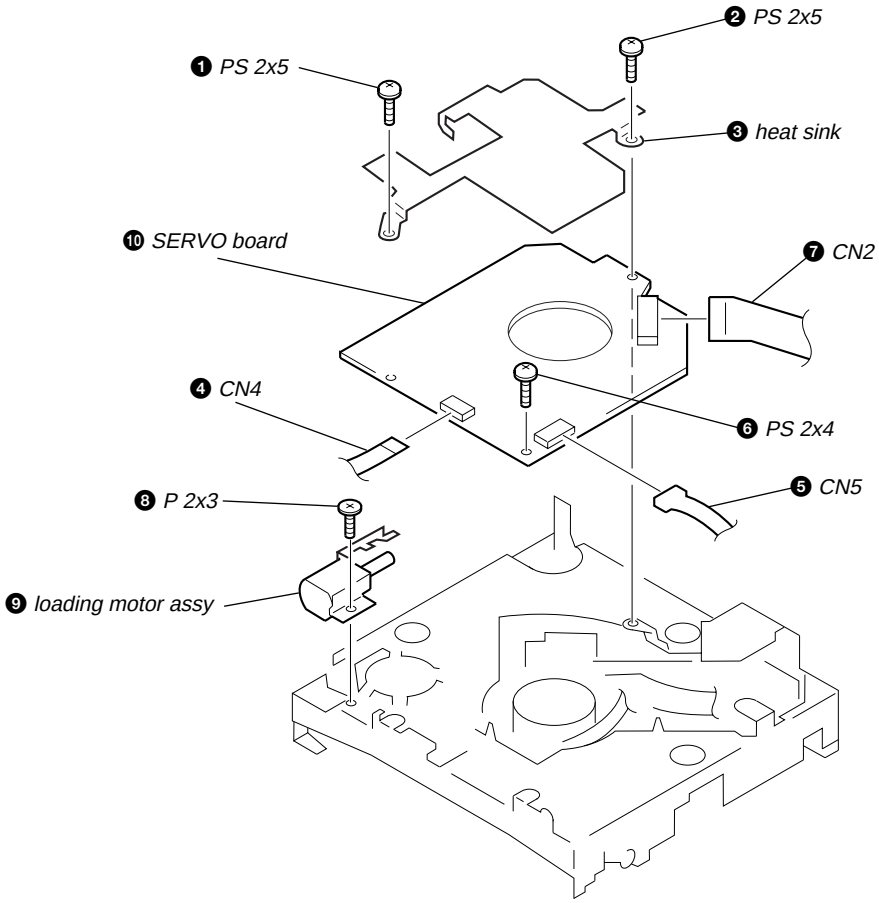
2-7. CHASSIS (T) SUB ASSY



2-8. LEVER ASSY



2-9. SERVO BOARD



2-10. ROLLER ASSY

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

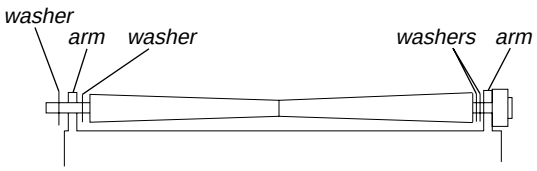
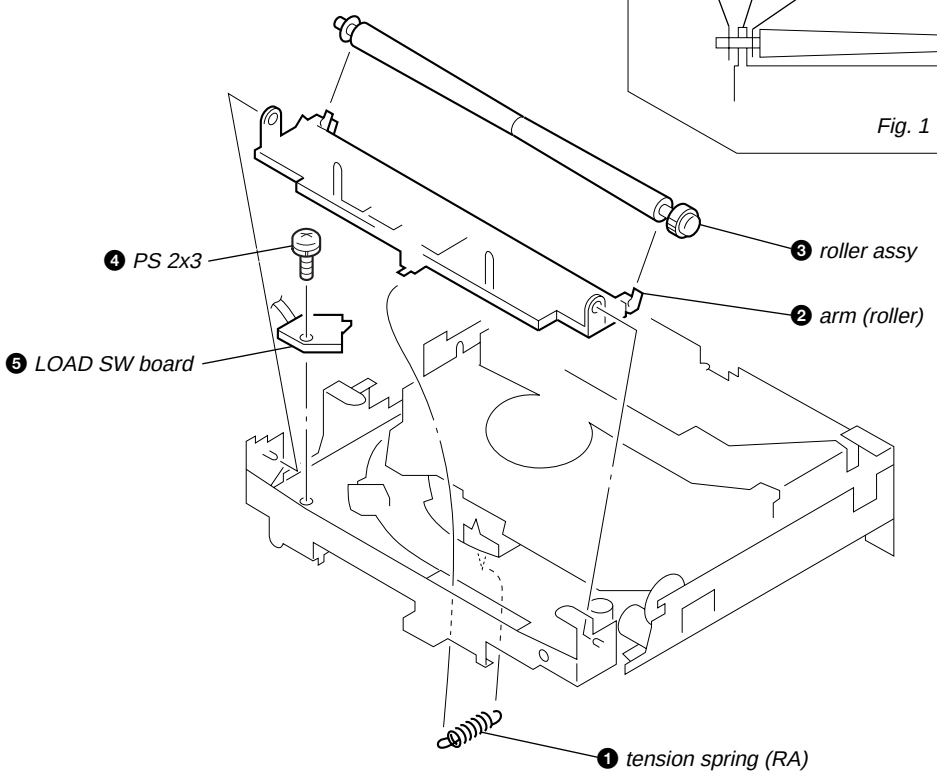
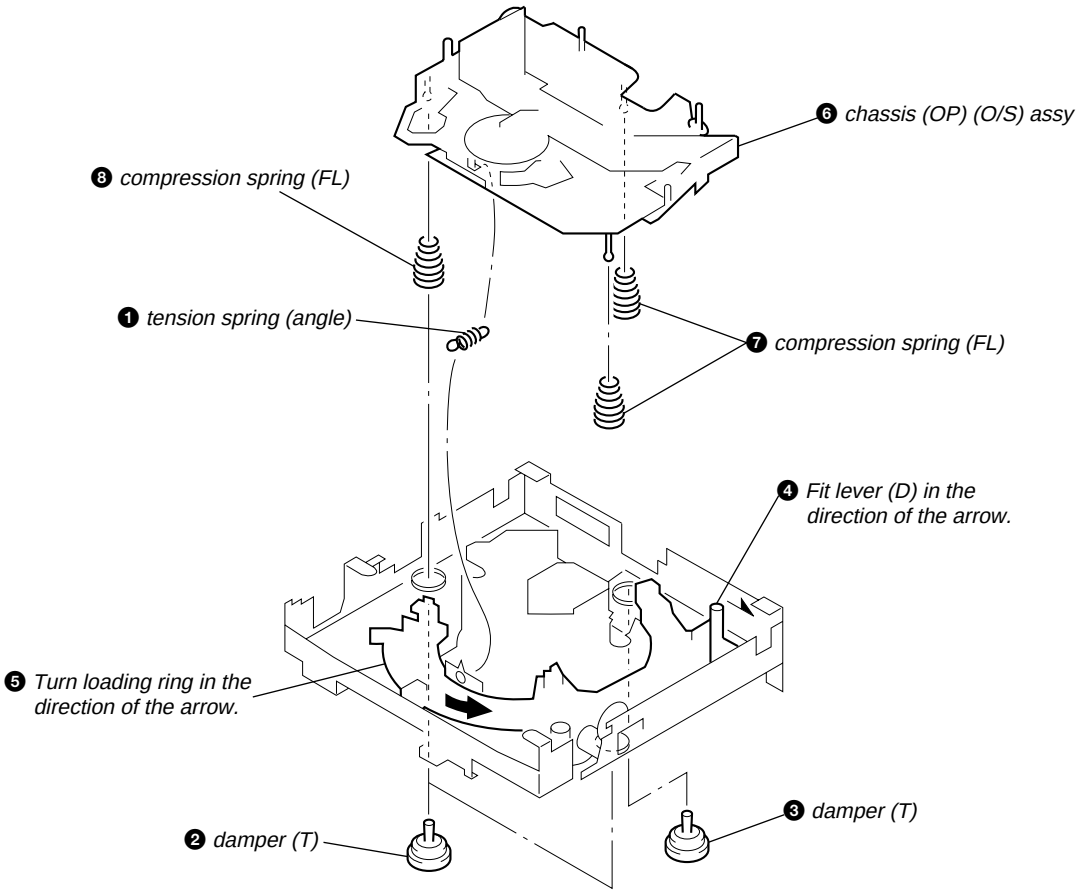


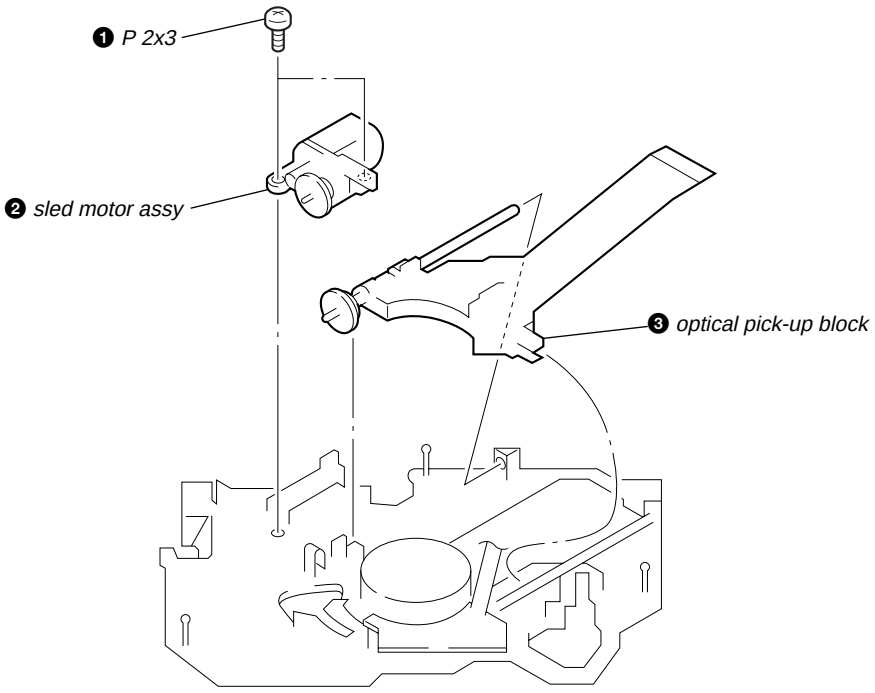
Fig. 1



2-11. CHASSIS (OP) (O/S) ASSY


❻ chassis (OP) (O/S) assy
❽ compression spring (FL)
❶ tension spring (angle)
❼ compression spring (FL)
❹ Fit lever (D) in the direction of the arrow.
❺ Turn loading ring in the direction of the arrow.
❸ damper (T)
❷ damper (T)

2-12. OPTICAL PICK-UP BLOCK



SECTION 3
ELECTRICAL ADJUSTMENTS

CD SECTION

CD section adjustments are done automatically in this set.

TUNER SECTION 0 dB = 1 μV

Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>

1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test Mode>

1. Push the [OFF] button.

Note on Adjustment

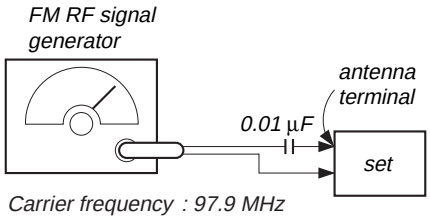
The adjustments of tuner section, should be performed according to the following sequence.

1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. AM Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting :

SOURCE button : FM
FREQUENCY SELECT switch (E model) : FM 200K

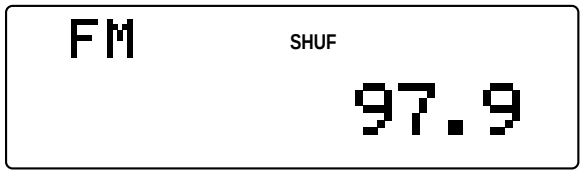


Carrier frequency : 97.9 MHz
Output level : 22 dB (12.6 μV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

Procedure :

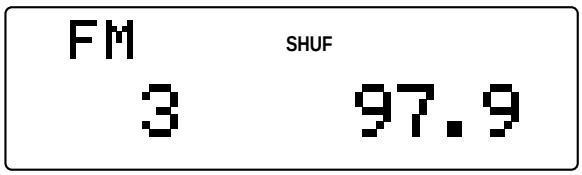
1. Set to the test mode.
2. Push the [SOURCE] button and set to FM.

Display



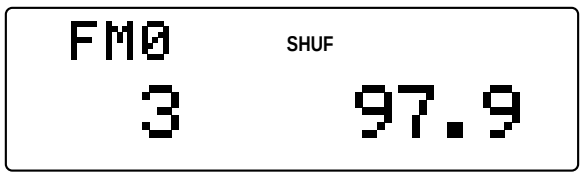
3. Push the preset [3] button.

Display



4. Adjust with the volume RV2 on TU10 so that the "FM" indication turns to "FM0" indication on the display window. But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

Display

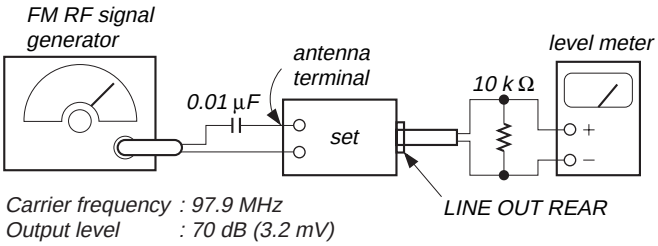


Adjustment Location : See page 29.

FM Stereo Separation Adjustment (WIDE)

Setting :

SOURCE button : FM
FREQUENCY SELECT switch (E model) : FM 200K



Carrier frequency : 97.9 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 33.75 kHz deviation (45%)
sub : 1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV3 on TU10 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV3 on TU10 for minimum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

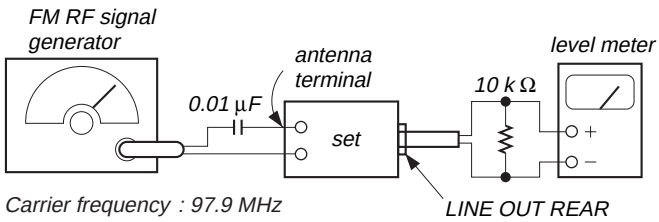
Specification : Separation more than 24 dB

Adjustment Location : See page 29.

FM Stereo Separation Adjustment (NARROW)

Setting :

SOURCE button : FM
FREQUENCY SELECT switch (E model) : FM 200K



Carrier frequency : 97.9 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 33.75 kHz deviation (45%)
sub : 1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

1. Push the [SHIFT] button.
2. Push the [4] button three times.
3. Push the [5] button twice and set to NARROW mode.

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU10 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU10 for minimum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

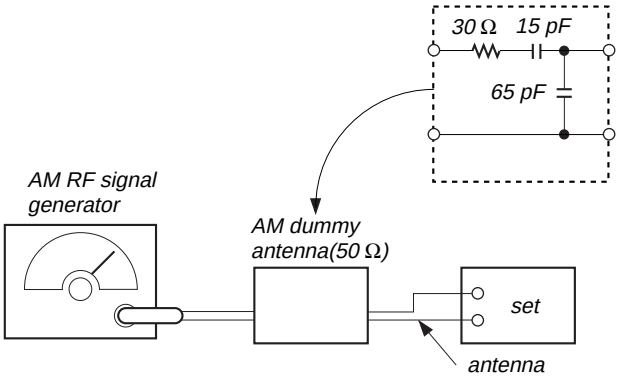
Specification : Separation more than 18 dB

Adjustment Location : See page 29.

AM Auto Scan/Stop Level Adjustment

Setting :

SOURCE → MODE button : AM
FREQUENCY SELECT switch (E model) : AM 10K

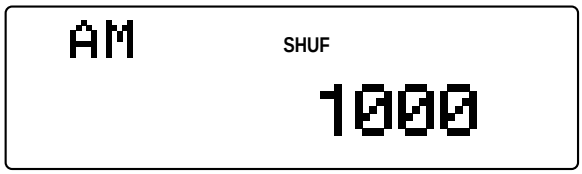


Carrier frequency : 1000 kHz
30% amplitude modulation by 1 kHz signal
output level : 33 dB (44.7 μV)

Procedure :

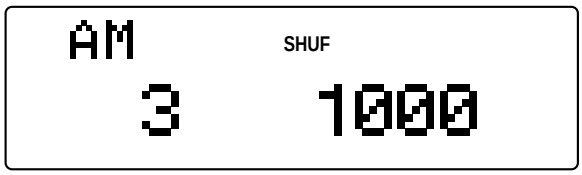
1. Set to the test mode. (See page 27.)
2. Push the [SOURCE] button.
3. Push the [MODE] button and set to AM.

Display



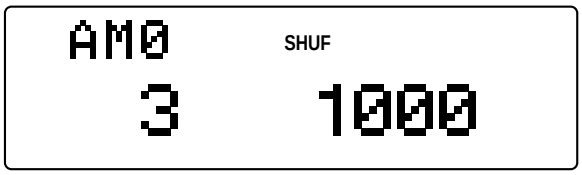
4. Push the preset [3] button.

Display



5. Adjust with the volume RV1 on TU10 so that the “AM” indication turns to “AM0” indication on the display window. But, in case of already indicated “AM0”, turn the RV1 so that put out light “0” indication and adjustment.

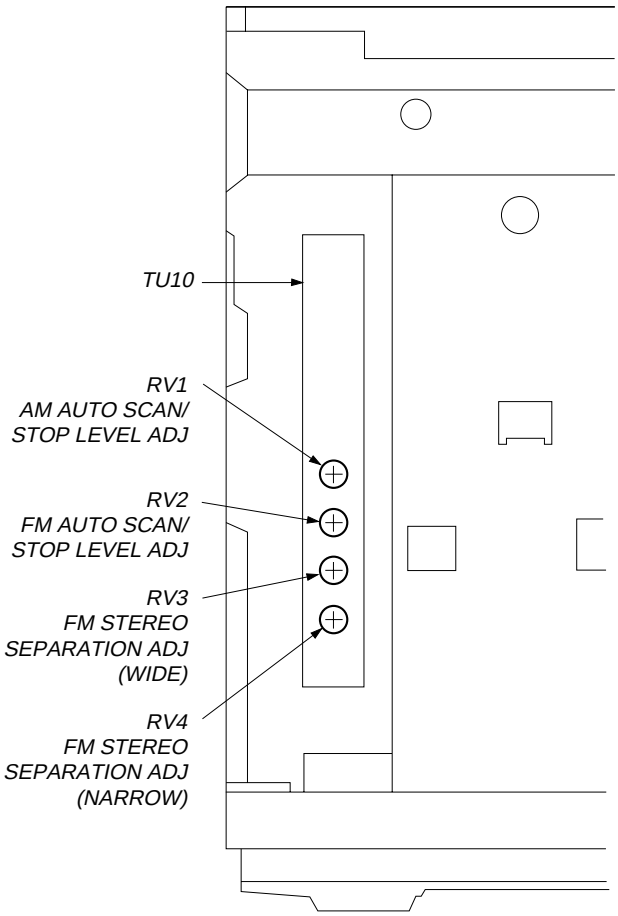
Display



Adjustment Location : tuner unit (TU10)

Adjustment Location : tuner unit (TU10)

–set upper view–



SECTION 4
DIAGRAMS

4-1. IC PIN DESCRIPTIONS

• IC5 CXP84640-011Q (CD SYSTEM CONTROL) (SERVO BOARD)

Pin No.	Pin Name	I/O	Pin Description
1 – 5	NCO	—	Not used in this set.
6	FP OPEN	I	Front panel open detection input
7	FP CLOSE	O	Front panel close control output
8	LINKOFF	I	Bus interface link input (Not used in this set.)
9	DRV OE	O	Focus/tracking coil/sled motor control output
10	$\overline{\text{D SW}}$	I	Down switch input (SW4)
11 – 13	NCO	—	Not used in this set.
14	LM EJ	O	Loading motor control output
15	LM LOD	O	Loading motor control output
16	EMPH O	O	De-emphasis ON/OFF control output
17	$\overline{\text{CDMON}}$	O	CD mechanism deck power control output
18	$\overline{\text{CD ON}}$	O	CD power control output
19	A MUT	O	System attenuate control output
20	$\overline{\text{LD ON}}$	O	Lazer power ON/OFF control output
21	$\overline{\text{CD RST}}$	O	CD system reset output
22 – 24	—	—	Not used in this set.
25	PH3	I	Not used in this set.
26	TSTIN0	I	Not used in this set.
27	TSTIN1	I	Not used in this set.
28	$\overline{\text{TST CLV}}$	I	Not used in this set.
29	NCO	—	Not used in this set.
30	$\overline{\text{RESET}}$	I	System reset input (“L” = Reset)
31	$\overline{\text{X IN}}$	I	X’tal oscillator input of system clock. (10 MHz)
32	$\overline{\text{X OUT}}$	O	X’tal oscillator output of system clock. (10 MHz)
33	GND	—	Analog GND
34	$\overline{\text{XT OUT}}$	O	Not used in this set.
35	$\overline{\text{XT IN}}$	I	Not used in this set.
36	AVSS	—	A/D converter GND
37	AVREF	I	A/D converter reference voltage input
38	TEP L	I	Not used in this set.
39	TEP H	I	Not used in this set.
40	NCO	—	Not used in this set.
41	PH2	I	Not used in this set.
42	SCLK	O	CD-TEXT data read clock output
43	$\overline{\text{ESPXQOK}}$	O	XQOK signal output to DRAM controller.
44	ESPSDT	I	Serial data input from DRAM controller.
45	$\overline{\text{GRSRST}}$	O	Reaet signal output to DRAM controller.
46	GRSCOR	I	Sub-cord sync input from DRAM controller.
47	CD XLAT	O	CD signal process serial latch output
48	TX CLK	O	EEPROM serial clock output
49	TX DATA	O	EEPROM serial data output
50	UNISO	O	Not used in this set.
51	BUS CLK	I/O	Bus system serial clock input/output
52	BUS SI	I	Bus system serial interface input
53	BUS SO	O	Bus system serial interface output
54	F OK	I	Focus OK signal input
55	GFS	I	GFS signal detection input
56	SCOR	O	Sub-cord sync output
57	SENS	I	SENS signal input
58	—	I	Fixed at “H” in this set.
59	CD CKO	O	CD signal process serial clock output

Pin No.	Pin Name	I/O	Pin Description
60	BU.IN	I	Back-up power detection input
61	$\overline{\text{BUSON}}$	I	Bus on control input
62	$\overline{\text{IN SW}}$	I	Disc in switch input (SW1)
63	$\overline{\text{SELF SW}}$	I	Self switch input (SW2)
64	$\overline{\text{TX CE}}$	O	EEPROM chip enable output
65	SCK2	O	Sub Q read clock output
66	SI2	I	Sub Q 80 bit, PCM peak and level data 16 bit input
67	CD DATA	O	CD signal process serial data output
68	$\overline{\text{ESPXWRE}}$	O	Write signal output to DRAM controller.
69	$\overline{\text{ESPXRDE}}$	O	Read signal output to DRAM controller.
70	$\overline{\text{ESPXLT}}$	O	Serial data latch output to DRAM controller.
71	$\overline{\text{ESPXSOE}}$	O	XSOE signal output to DRAM controller.
72	VDD	—	Power supply
73	HIN	I	Fixed at “H” in this set.
74	TEXT.ON/OFF	I	Fixed at “H” in this set.
75	PH1	I	Not used in this set.
76	FBTBSEL	I	Not used in this set.
77	$\overline{\text{CDOSEL}}$	I	Not used in this set.
78 – 80	—	—	Not used in this set.

• IC501 CXD2548R (DIGITAL SERVO, DIGITAL SIGNAL PROCESSOR) (SERVO BOARD)

Pin No.	Pin Name	I/O	Pin Description
1	SYSM	I	System mute input (Not used.)
2	RMUT1	O	R-ch, “0” detection output. (“H” : ON, “L” : OFF) (Not used.)
3	LMUT2	O	L-ch, “0” detection output. (“H” : ON, “L” : OFF) (Not used.)
4	CKOUT	O	Master clock frequency division output (Not used.)
5	VDD0	—	Digital power supply
6	SBSO	O	Serial output of sub-P to W. (Not used.)
7	EXCK	I	Clock input for SBSO read output. (Not used.)
8	SQCK	I	Clock input for SQSO read output.
9	SQSO	O	SubQ 80 bit, PCM peak and level data 16 bit output.
10	SENS	O	SENS output. Output to CPU.
11	SCLK	I	Clock input for SENS real data read.
12	DATA	I	Serial data input from CPU.
13	XLAT	I	Latch input from CPU. Latch serial data at the falling edge.
14	CLOK	I	Serial data transfer clock input from CPU.
15	XRST	I	System reset (“L” : Reset)
16	ACDT	O	Not used.
17	PWM1	I	External control input of spindle motor.
18	XLON	O	Microcomputer extension interface (Output) (Not used.)
19	SPOA	I	Microcomputer extension interface (Input A) (Not used.)
20	WFCK	O	WFCK (Write Flame Clock) output
21	GTOP	O	GTOP output
22	XUGF	O	XUGF output (Not used.)
23	XPCK	O	XPLCK output (Not used.)
24	GFS	O	GFS output
25	RFCK	O	RFCK output
26	C2PO	O	C2PO output (Not used.)
27	XROF	O	XROF output
28	SCOR	O	“H” output at either detection, sub code sync S0 or S1.
29	MNT0	O	MNT0 output (Not used.)
30	MNT1	O	MNT1 output (Not used.)
31	MNT3	O	MNT3 output (Not used.)
32	VSS1	—	Digital GND
33	DOUT	O	Digital-Out output
34	ATSK	I	For anti-shock.
35	MIRR	O	Mirror signal output (Not used.)
36	DFCT	O	Diffect signal output (Not used.)
37	FOK	O	Focus OK signal output
38	VDD1	—	Digital power supply
39	VPCO1	O	Charge pump output for wideband EFM PLL.
40	VPCO2	O	VCO2 charge pump output for wideband EFM PLL.
41	VCK.I	I	VCO2 oscillator input for wideband EFM PLL.
42	V16M	O	VCO2 oscillator output for wideband EFM PLL.
43	VCTL	I	VCO2 control input for wideband EFM PLL.
44	PCO	O	Charge pump output for master PLL.
45	FILO	O	Filter output for master PLL (slave = digital PLL).
46	FILI	I	Filter input for master PLL.
47	AVSS4	—	Analog GND
48	CLTV	I	VCO control voltage input for master.
49	AVDD4	—	Analog power supply
50	RFAC	I	EFM signal input
51	BIAS	I	Asymmetry circuit constant current input

Pin No.	Pin Name	I/O	Pin Description
52	ASY.I	I	Asymmetry comparate voltage input
53	ASY.O	O	EFM full-swing output (“L” : VSS, “H” : VDD)
54	VC	I	Center voltage input
55	FE	I	Focus error signal input
56	SE	I	Sled error signal input
57	TE	I	Tracking error signal input
58	CE	I	Center error signal input
59	RFDC	I	RF signal input
60	RFC	I	Condenser connection pin for LPF time constant of RF signal.
61	ADIO	O	OP amplifier output (Not used.)
62	AVSS3	—	Analog GND
63	IGEN	I	Current source reference resistor connection for OP amplifier.
64	AVDD3	—	Analog power supply
65, 66	TES2, 3	I	TEST pin (Fixed at “L”.)
67	VSS2	—	Digital GND
68	TEST	I	TEST pin (Fixed at “L”.)
69	SFDR	O	Sled drive output
70	SRDR	O	Sled drive output
71	TFDR	O	Tracking drive output
72	TRDR	O	Tracking drive output
73	FFDR	O	Focus drive output
74	FRDR	O	Focus drive output
75	VDD2	—	Digital power supply
76	COUT	O	Track number count signal output (Not used.)
77	LOCK	O	Not used.
78	MDS	O	Servo control output of spindle motor. (Not used.)
79	MDP	O	Servo control output of spindle motor.
80	SSTP	I	Disc most inner track detection signal input
81	FSTO	O	2/3 frequency division output of pins 103 and 104.
82	FSTI	I	Reference clock input for digital servo.
83	XTSL	I	X’tal select input (“L” : 16.9344 MHz)
84	C4M	O	4.2336 MHz output
85	WDCK	O	D/A interface. Word clock f = 2Fs
86	VDD3	—	Digital power supply
87	LRCK	O	D/A interface. LR clock f = Fs
88	LRCKI	I	LR clock input to DAC. (48 bit slot) (Not used.)
89	PCMD	O	D/A interface. Serial data (2’s COMP, MSB first)
90	PCMDI	I	Audio data input to DAC. (48 bit slot) (Not used.)
91	BCK	O	D/A interface. Bit clock
92	BCKI	I	Bit clock input to DAC. (48 bit slot) (Not used.)
93	EMPH	O	Not used.
94	EMPHI	I	De-emphasis ON/OFF of DAC. (“H” : ON, “L” : OFF) (Not used.)
95	VSS3	—	Digital GND
96	AVSS1	—	L-ch, Analog GND.
97	AVDD1	—	L-ch, Analog power supply.
98	AOUT1	O	L-ch, Analog output. (Not used.)
99	AIN1	I	L-ch, OP amplifier input. (Not used.)
100	LOUT1	O	L-ch, LINE output. (Not used.)
101	AVSS1	—	L-ch, Analog GND.
102	XVDD	—	Analog power supply for master clock.
103	XTAI	I	X’tal oscillator input of master clock (16.9344 MHz).
104	XTAO	O	X’tal oscillator output of master clock. (Not used.)
105	XVSS	—	Analog GND for master clock. (Not used.)

Pin No.	Pin Name	I/O	Pin Description
106	AVSS2	—	R-ch, Analog GND.
107	ROUT2	O	R-ch, LINE output. (Not used.)
108	AIN2	I	R-ch, OP amplifier input. (Not used.)
109	AOUT2	O	R-ch, Analog output. (Not used.)
110	AVDD2	—	R-ch, Analog power supply.
111	AVSS2	—	R-ch, Analog GND.
112	VSS0	—	Digital GND

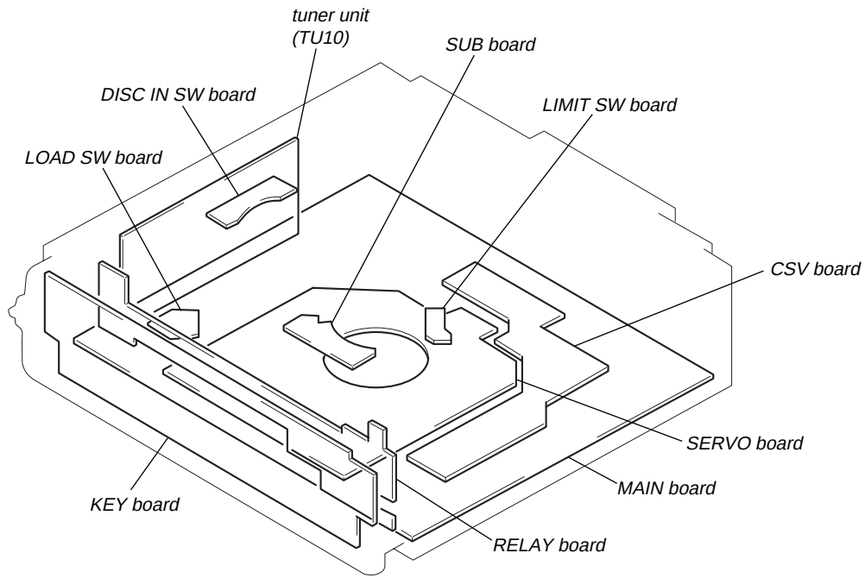
• IC501 MB90574PFV-G-132-BND (SYSTEM CONTROL) (MAIN BOARD)

Pin No.	Pin Name	I/O	Pin Description
1	$\overline{\text{SEKOUT}}$	O	SEEK OUT output
2	AF-SEEK	O	AF SEEK output (Not used in this set.)
3	WIDE	O	WIDE/NARROW select output
4	ST-MONO	I/O	Use a thing both as ST-IND display input and force MONO output.
5	TUNMUTE	O	Tuner mute output
6	FM-ON	O	FM ON output
7	TU-ON	O	Tuner ON output
8	VCC	—	Power supply pin (+5 V)
9	$\overline{\text{CSV-RST}}$	O	Audio composition IC reset output
10	BUSON	O	Bus ON control output
11	$\overline{\text{SYSRST}}$	O	System reset output
12	$\overline{\text{DOORSW}}$	I	Door OPEN/CLOSE detection input
13	LCDSO	O	LCD serial data output
14	LCDCKO	O	LCD serial clock output
15	BEEP	O	BEEP output
16	LCDCE	O	LCD chip enable output
17	UNISI	O	Serial data input
18	UNISO	O	Serial data output
19	UNICKI	I/O	Serial clock input/output
20	CSV-DATA	I	Audio composition serial data input
21	CSV-SO	O	Audio composition serial data output
22	CSV-CKO	O	Audio composition serial clock output
23	CSV-CE	O	Audio composition chip enable output
24	SIRCS	I	Remote commander input
25	PLLSI	I	PLL data input
26	PLLSO	O	PLL data output
27	PLLCKO	O	PLL clock output
28	PLLCE	O	PLL chip enable output
29	ILL-ON	O	Illumination power control output
30	DIMMER	I/O	Dimmer control input/output
31	TIRIND	O	TIR indicator control output (Not used in this set.)
32	$\overline{\text{LCDINH}}$	O	LCD blank display control output
33	VSS	—	GND
34	C	—	Power stabilization capacitor pin
35	$\overline{\text{AD-ON}}$	O	Power control output of A/D conversion.
36, 37	RE-IN0, 1	I	Rotary encoder input 0, 1
38	DVCC	—	D/A converter VREF input
39	DVSS	—	GND of D/A converter.
40	SD-IN	I	Signal detector input
41	LCDANG	O	LCD view angle alignment output
42	AVCC	—	Analog power supply pin (+5 V)
43	AVRH	—	A/D converter VREF+ input
44	AVRL	—	A/D converter VREF– input
45	AVSS	—	Analog GND
46, 47	KEYIN0, 1	I	Key input 0, 1
48	RC-IN0	I	Rotary commander input 0
49	DSTSEL0	O	CSV power control output
50	DSTSEL1	I	Destination select input 1 (Fixed at “L” in this set.)
51	DSTSEL2	I	Destination select input 2 (Fixed at “L” in this set.) (US model) Frequency select input (E model)
52	MTP	I	Tuner multi-pass input (Not used in this set.)
53	VSM	I	S-Meter voltage detection input

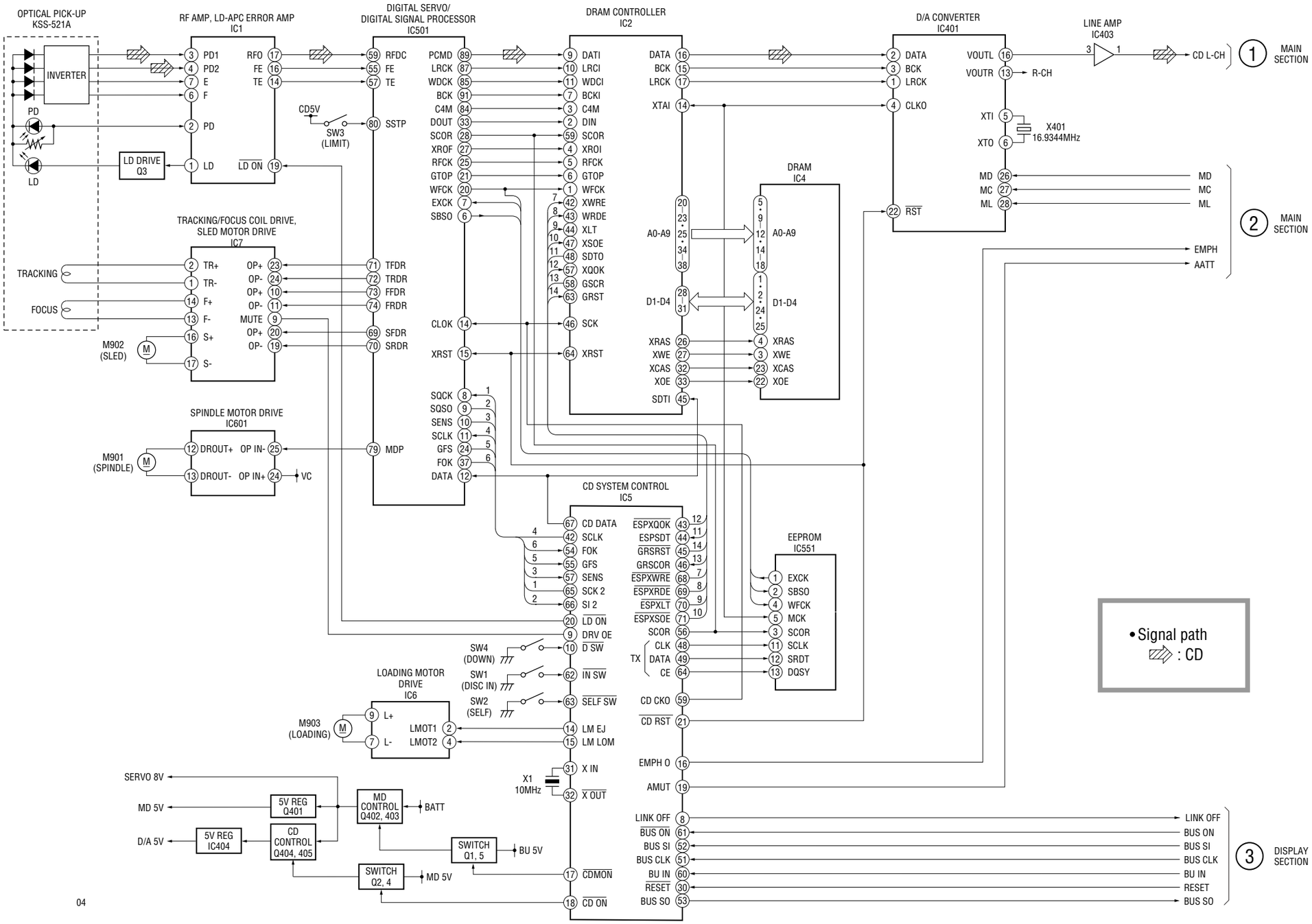
Pin No.	Pin Name	I/O	Pin Description
54	VCC	—	Power supply pin (+5 V)
55	$\overline{\text{RAMBU}}$	I	RAM reset detection input
56	POWSEL	I	Power select initial setting input
57	$\overline{\text{EQ-SEL}}$	I	Equalizer connection with/without detection initial input
58	$\overline{\text{TESTIN}}$	I	Test mode setting detection input
59	DOORIND	O	Door indicator output
60	TIRPLAY	O	Audio line select control output at CSV.
61, 62	SUB-SW1, 0	O	Simple SUB WOOFER control output 1, 0
63	VSS	—	GND
64	VOLCE	O	Electric volume serial chip enable output
65	MUTE	O	System mute control output
66	VOLSO/SUBSO	O	Main/Sub volume serial data output
67	VOLCKO/SUBCKO	O	Main/Sub volume serial clock output
68	SUBCE	O	Sub volume serial chip enable output
69	$\overline{\text{FLASH-W}}$	I	Flash write in mode detection input
70	I2CSIO	I	RDS serial data input (Not used in this set.)
71	I2CCKO	I	RDS serial clock input (Not used in this set.)
72	RC-IN1	I	Rotary commander input
73	X1A	—	Low speed oscillation input (32.768 kHz)
74	X0A	—	Low speed oscillation input (32.768 kHz)
75	DAVN	I	RDS IC data taking in detection input (Not used in this set.)
76	KEYACK	I	Key input acknowledge
77	BU-IN	I	Back-up power detection input
78	$\overline{\text{ILLIN}}$	I	Illumination line detection input
79	TELMUTE	I	Telephone mute detection input
80	$\overline{\text{NOSESW}}$	I	Front panel detachable detection input
81	$\overline{\text{ACCIN}}$	I	Accessory power detection input
82 – 85	TIR-D0 – D3	I/O	TIR IC command input/output 0 – 3 (Not used in this set.)
86	HRST	—	Connect to power supply pin.
87	(VSS)	—	Connect to GND.
88, 89	(VCC)	—	Connect to power supply pin.
90	$\overline{\text{RST}}$	—	Microcomputer reset input
91	VSS	—	GND
92	X0	—	High speed oscillation input (3.68 MHz)
93	X1	—	High speed oscillation input (3.68 MHz)
94	VCC	—	Power supply pin (+5 V)
95	TIR-BUSY	I	TIR IC BUSY output monitor pin (Not used in this set.)
96	TIR-WR	O	TIR IC data write in pulse output (Not used in this set.)
97	TIR-CE	O	TIR IC chip enable output (Not used in this set.)
98	TIR-$\overline{\text{CE}}$	O	BBE IC chip enable output
99	TIR-RES	O	BBE IC reset/power down output
100	TIR-PDWN	O	BBE IC power down output
101	TIR-RD	O	TIR IC data read in pulse output (Not used in this set.)
102	MTLIN	I	Auto METAL detection input (Not used in this set.)
103	AM STIN	I	AM stereo detection input (Not used in this set.)
104	REEL	I	Tape reel table rotation detection input (Not used in this set.)
105	POS0	I	CD/MD operation detect input 0
106	POS1	I	CD/MD operation detect input 1
107	POS2	I	CD/MD operation detect input 2
108	POS3	I	CD/MD operation detect input 3
109	A-MUTE	I	CD mute signal input
110	EMPH	I	Emphasis signal input
111	LINKOFF	O	Link off output (Not used in this set.)

Pin No.	Pin Name	I/O	Pin Description
112, 113	NC	—	Not used in this set.
114	MD	O	CD serial data output
115	MC	O	CD serial clock output
116	ML	O	CD serial latch output
117	CSV-NAR	I	Audio composition request signal input
118	LEDON	O	Front panel LED control output
119	VSS	—	GND
120	POWON	O	System power control output

4-2. CIRCUIT BOARDS LOCATION

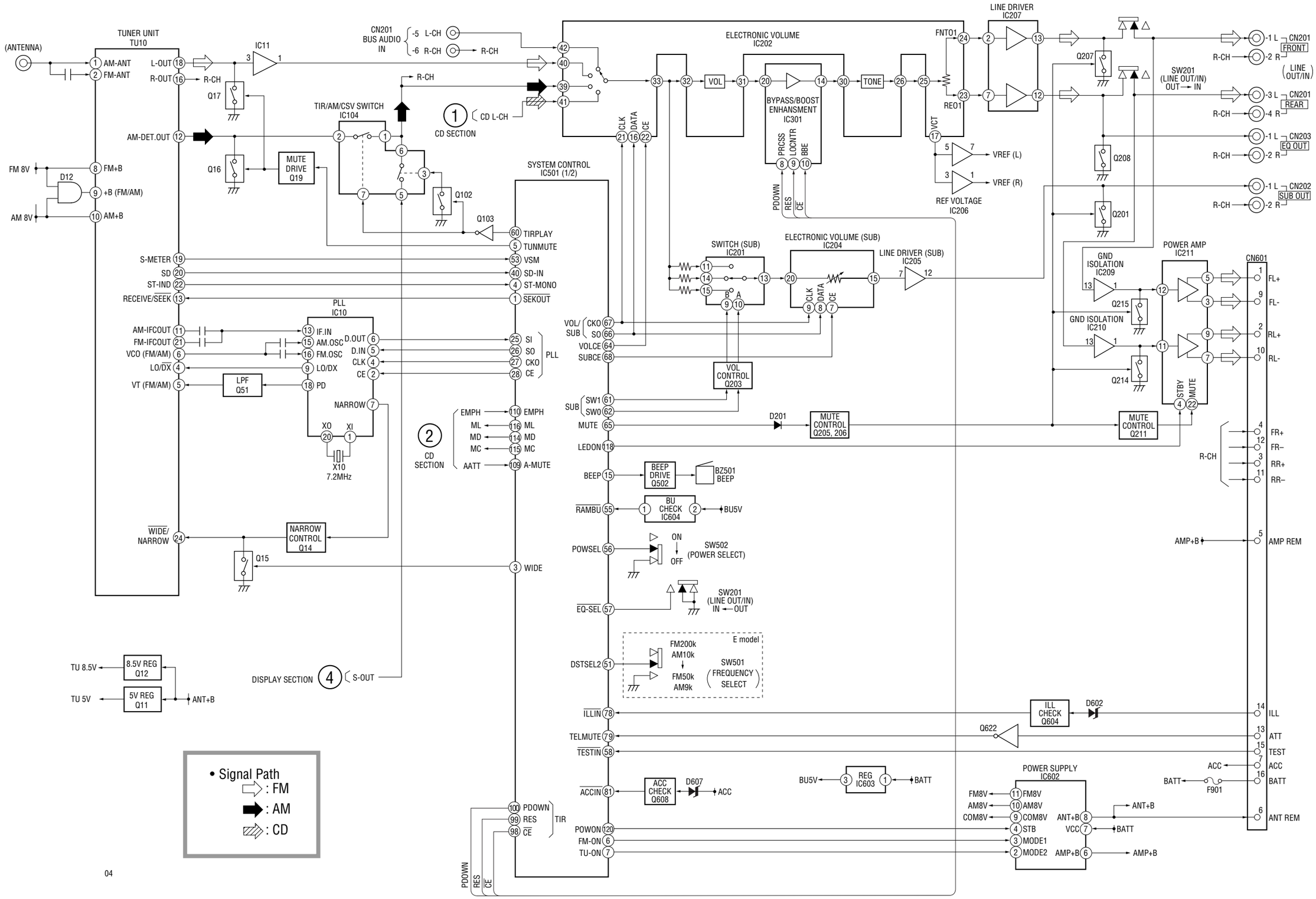


4-3. BLOCK DIAGRAM — CD SECTION —

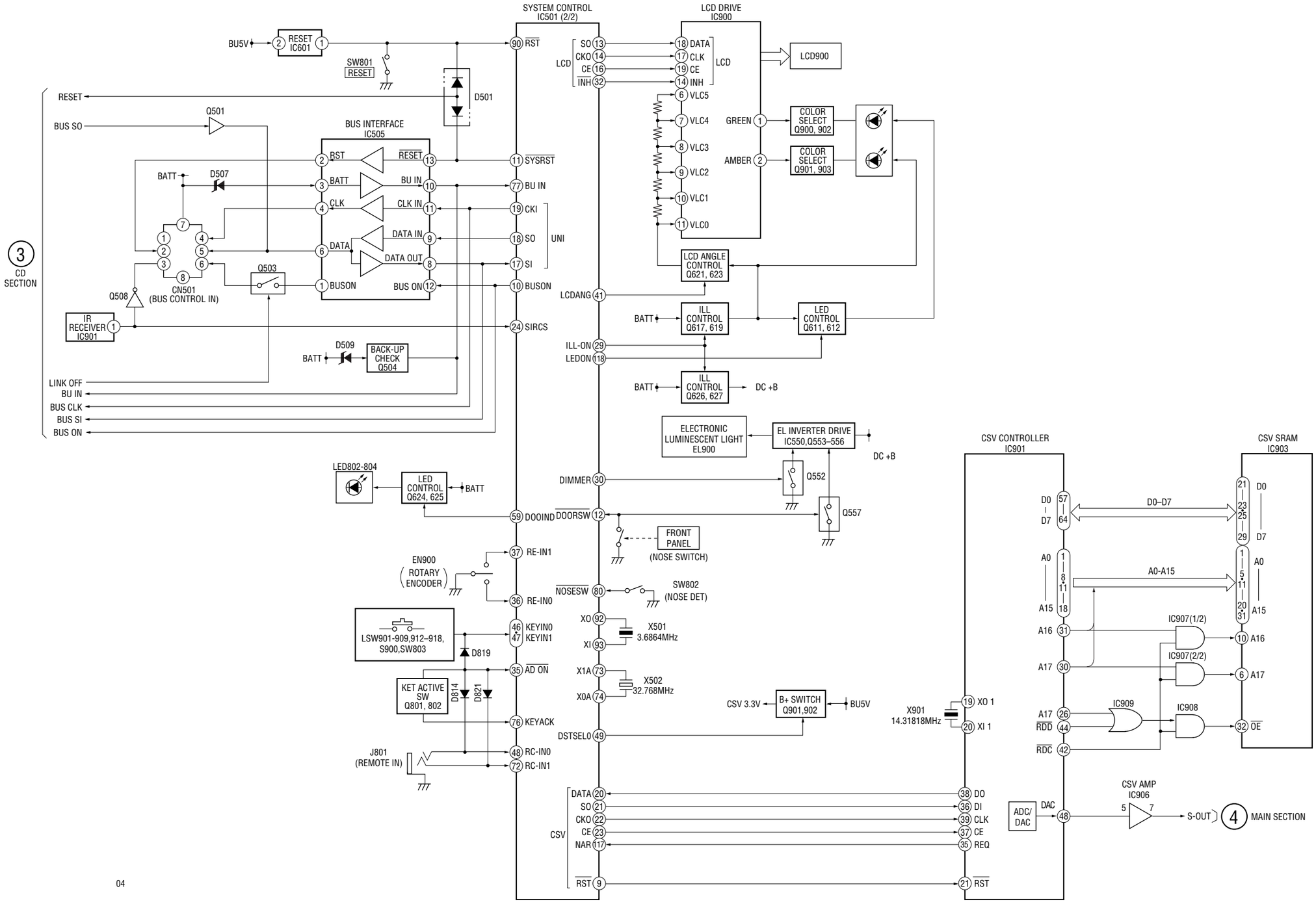


04

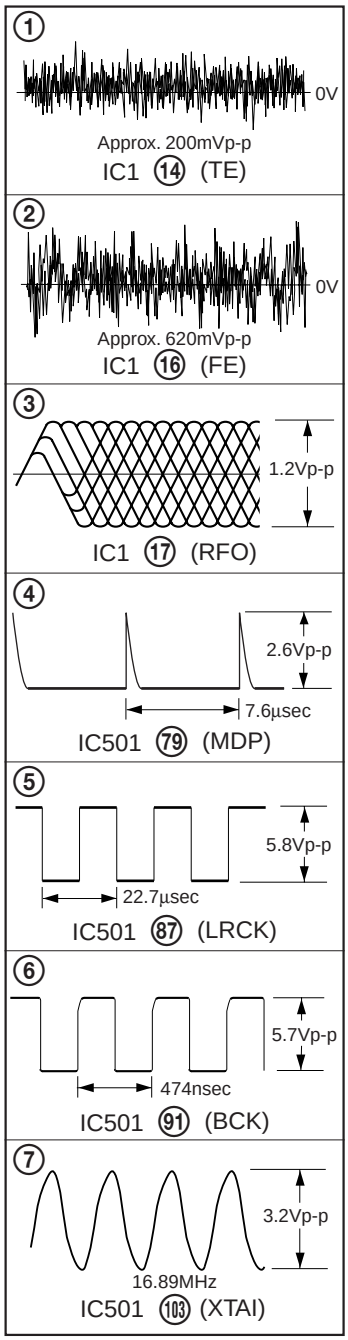
4-4. BLOCK DIAGRAM — MAIN SECTION —



4-5. BLOCK DIAGRAM — DISPLAY SECTION —



• **Waveforms** (MODE:PLAY)



Note:

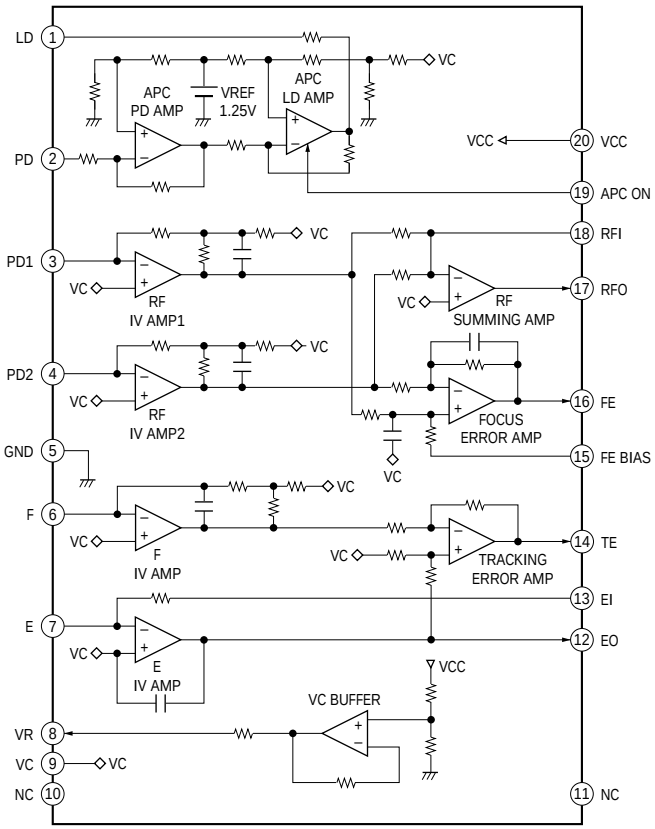
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

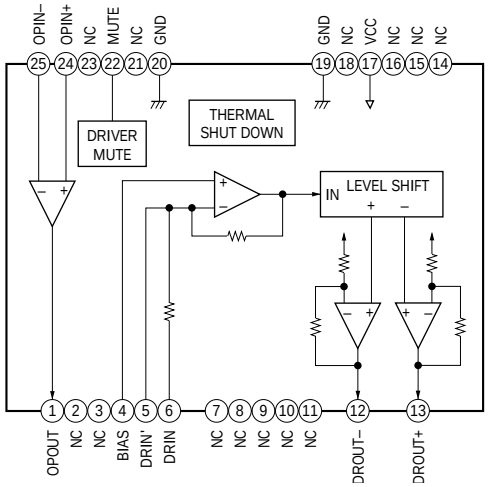
- B + : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  ∗ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : CD

• **IC Block Diagrams**

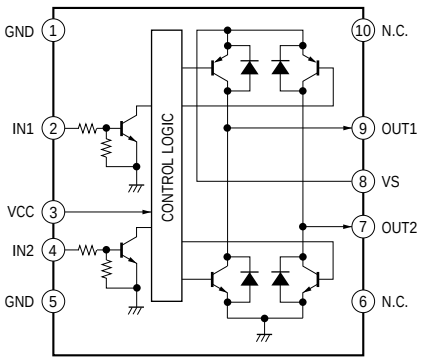
IC1 CXA1791N-T4



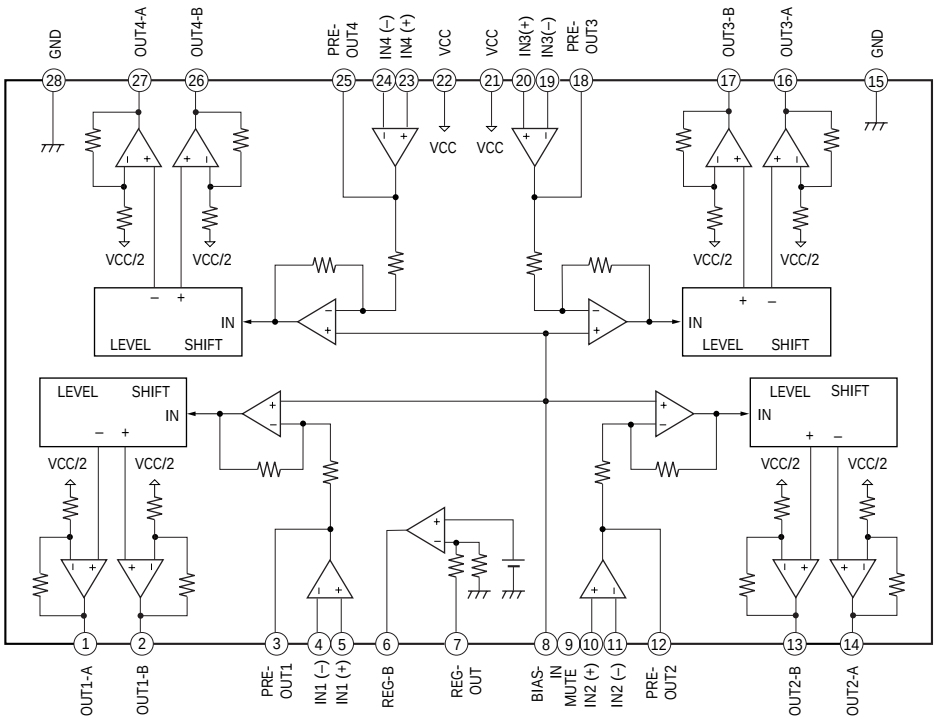
IC601 BA6195FP-YT2



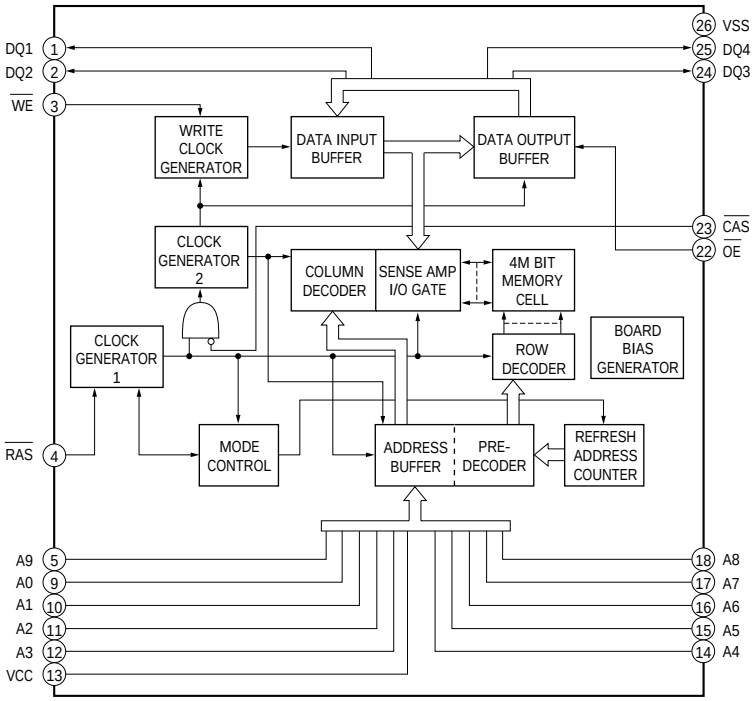
IC6 LB1638MTP-T1



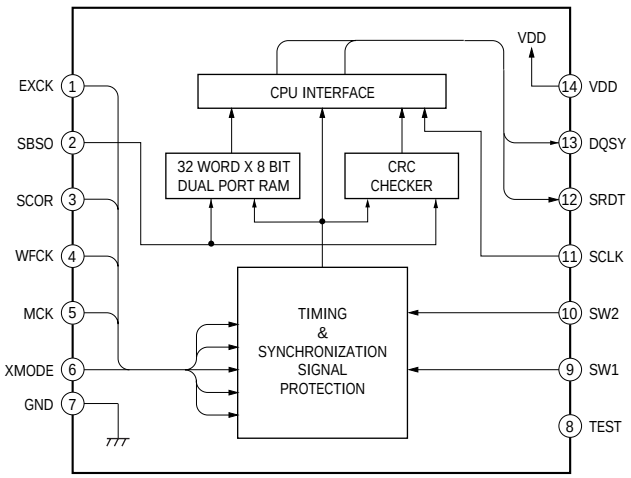
IC7 BA6797FP-E2



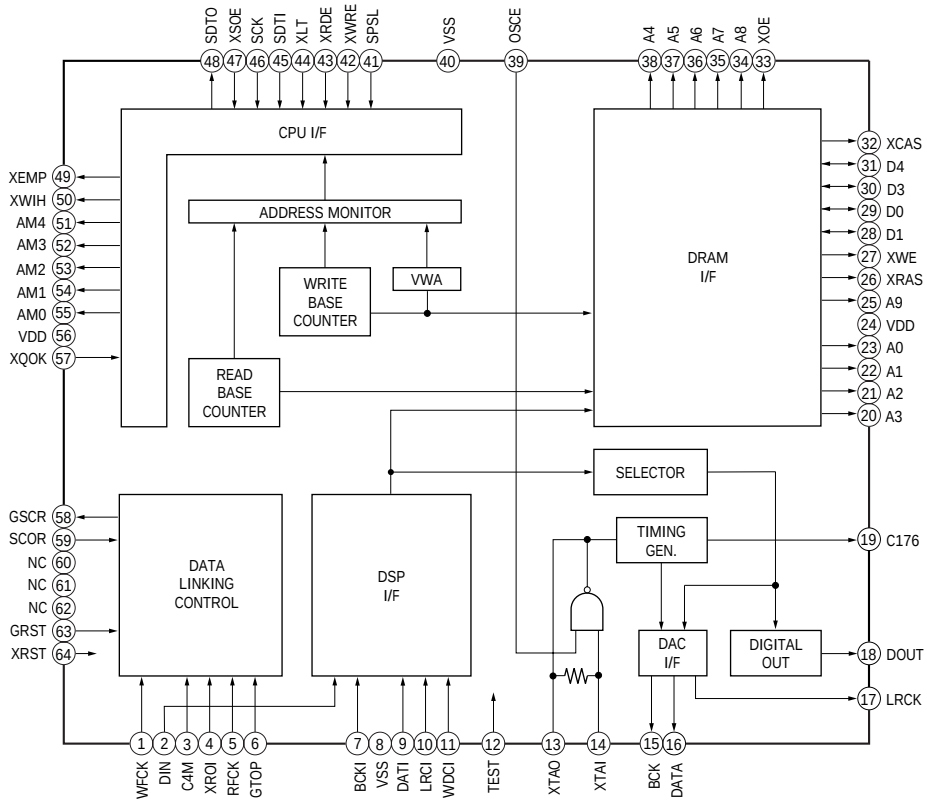
IC4 MB814400C-70PFTN



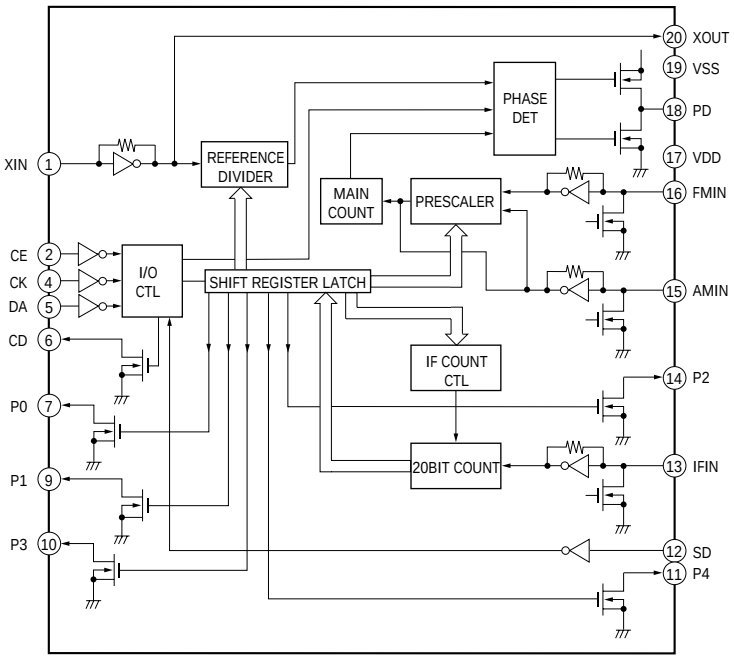
IC551 LC89170M-TLM



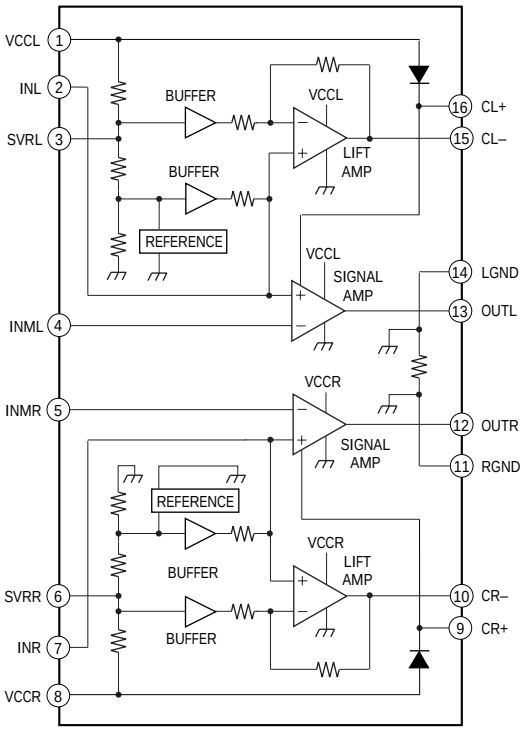
IC2 CXD2522R-T6



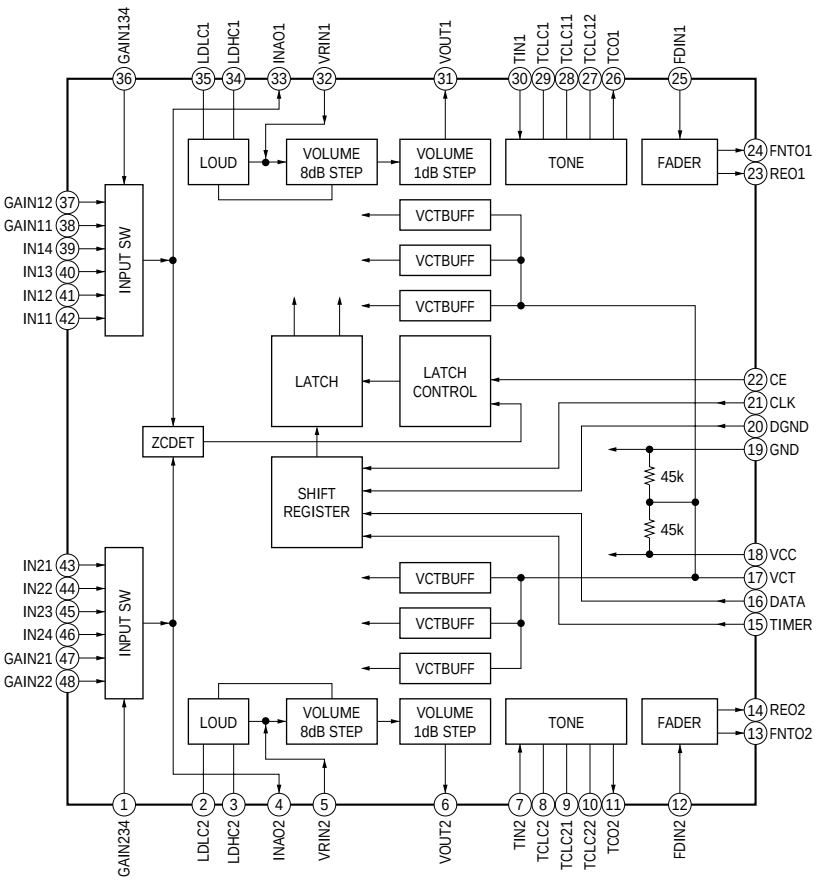
IC10 BU2624FV-E2



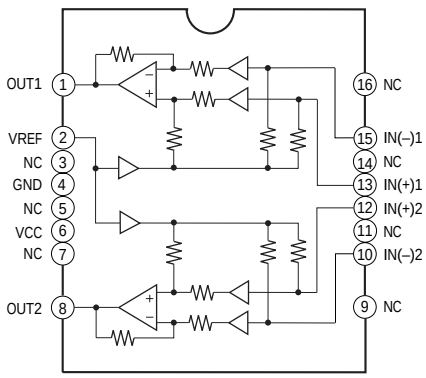
IC205, 207, 208 TDA8574(T)



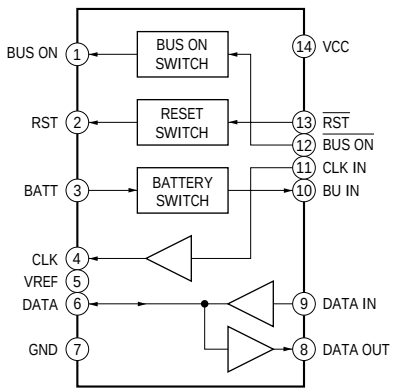
IC202 CXA1946BQ-T6



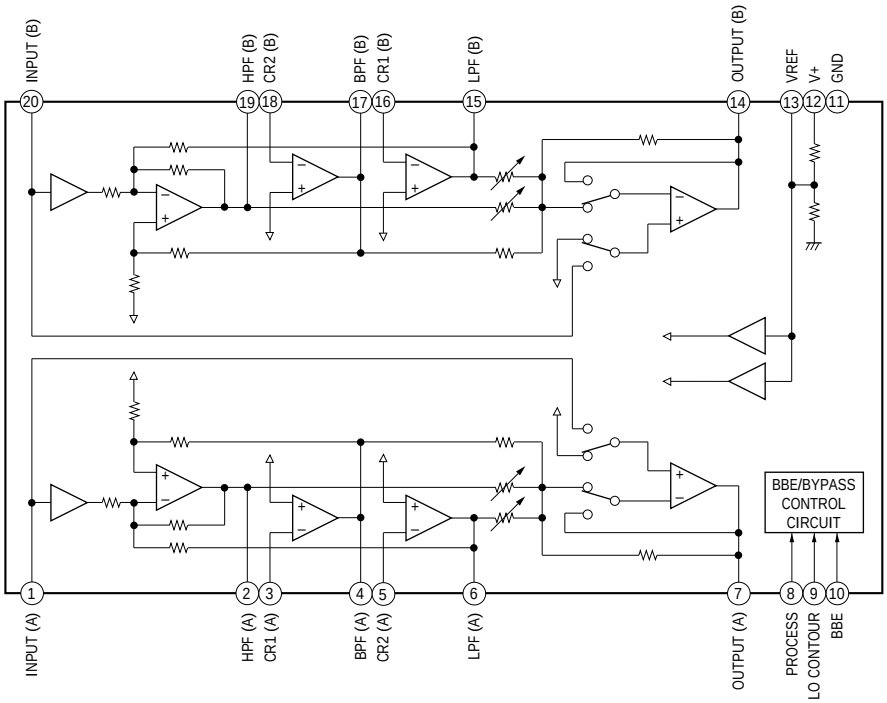
IC209, 210 TA2050F(EL)



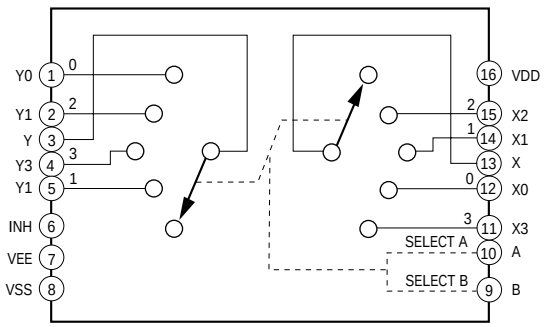
IC505 BA8270F-E2



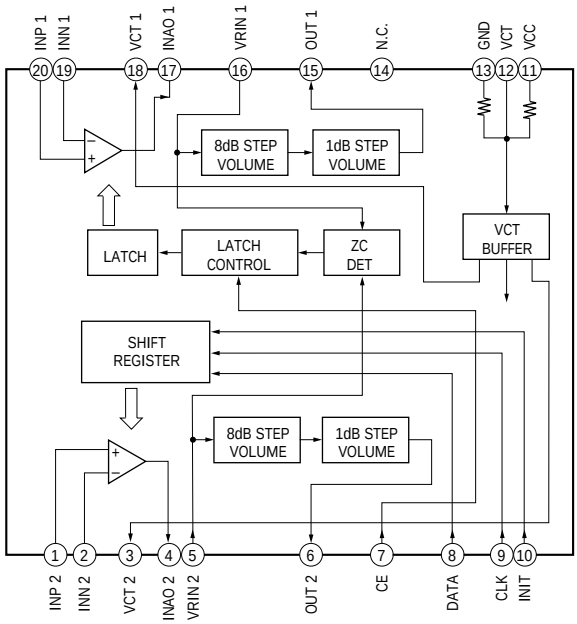
IC301 NJM2150AV-TE2



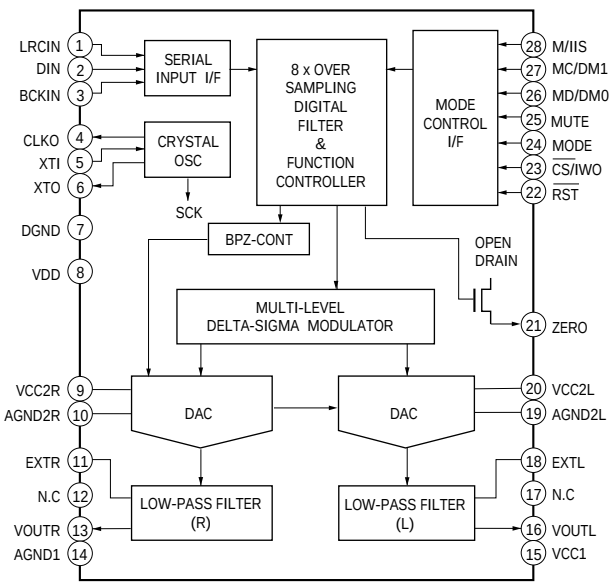
IC201 BU4052BCFV-E2



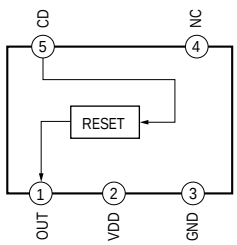
IC204 CXA1846N-T4



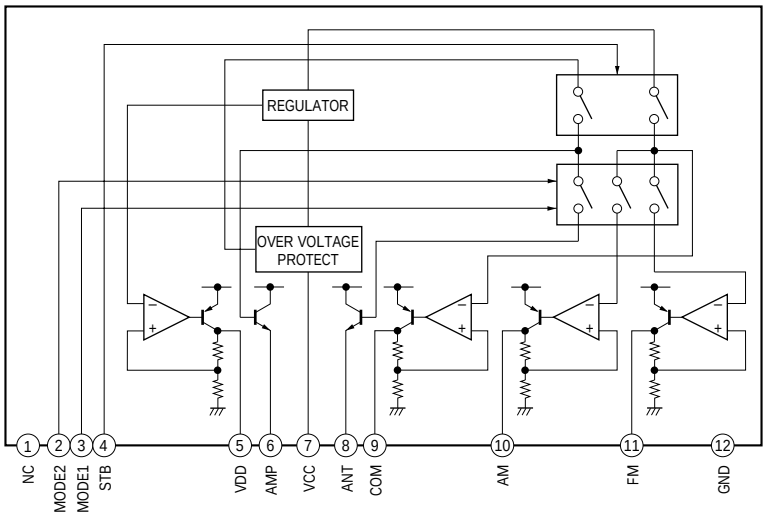
IC401 PCM1716E-BT2



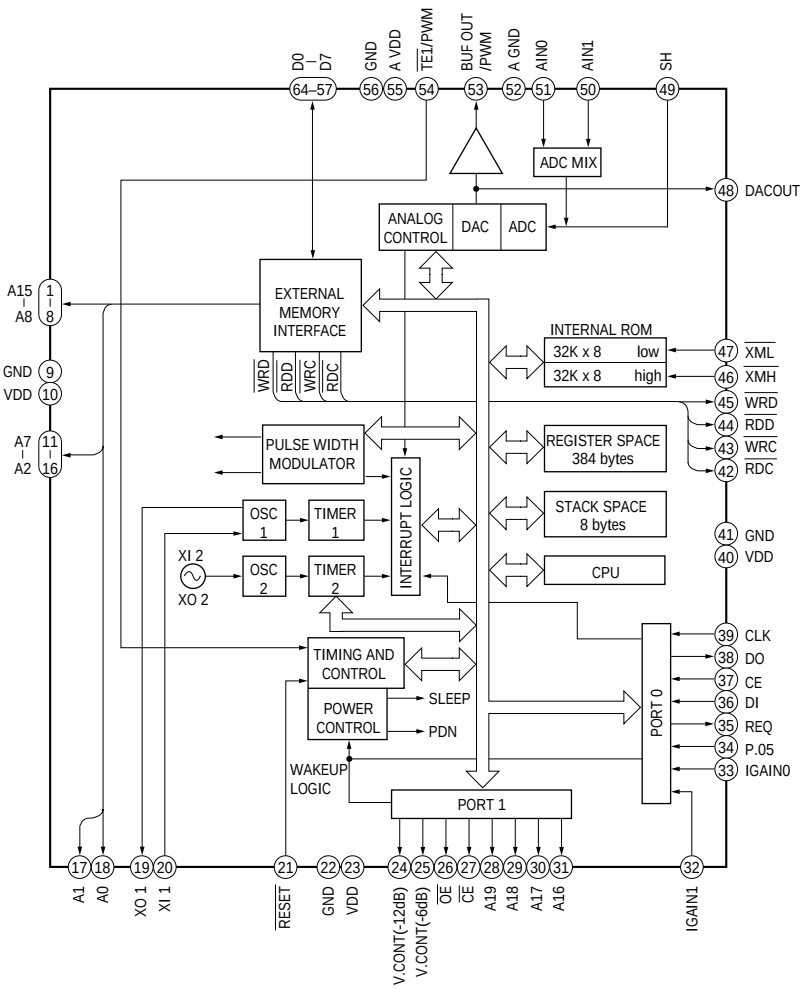
IC604 RN5VD33AA-TL



IC602 BA3918-V3



IC901 RSC-164



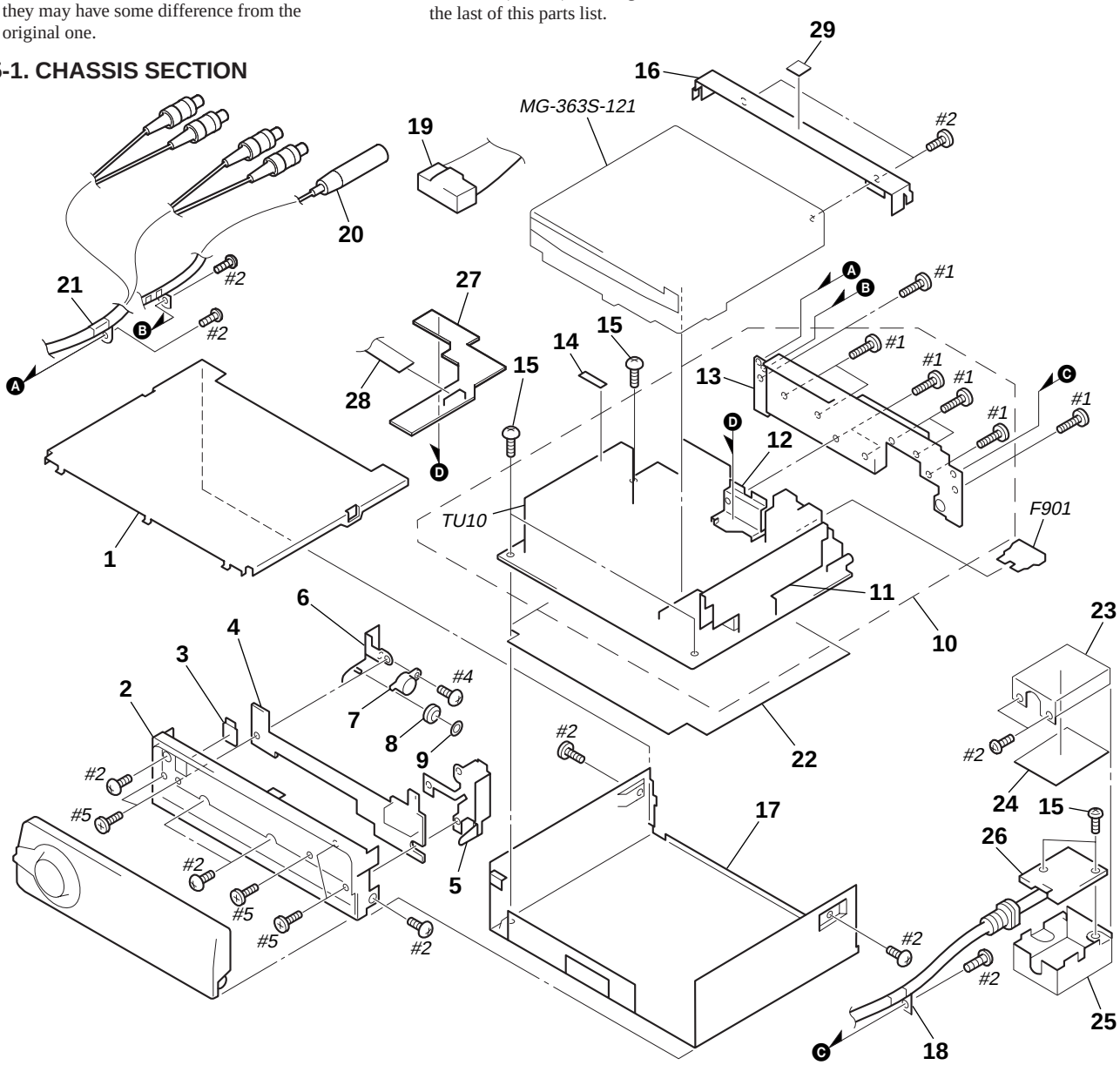
SECTION 5
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

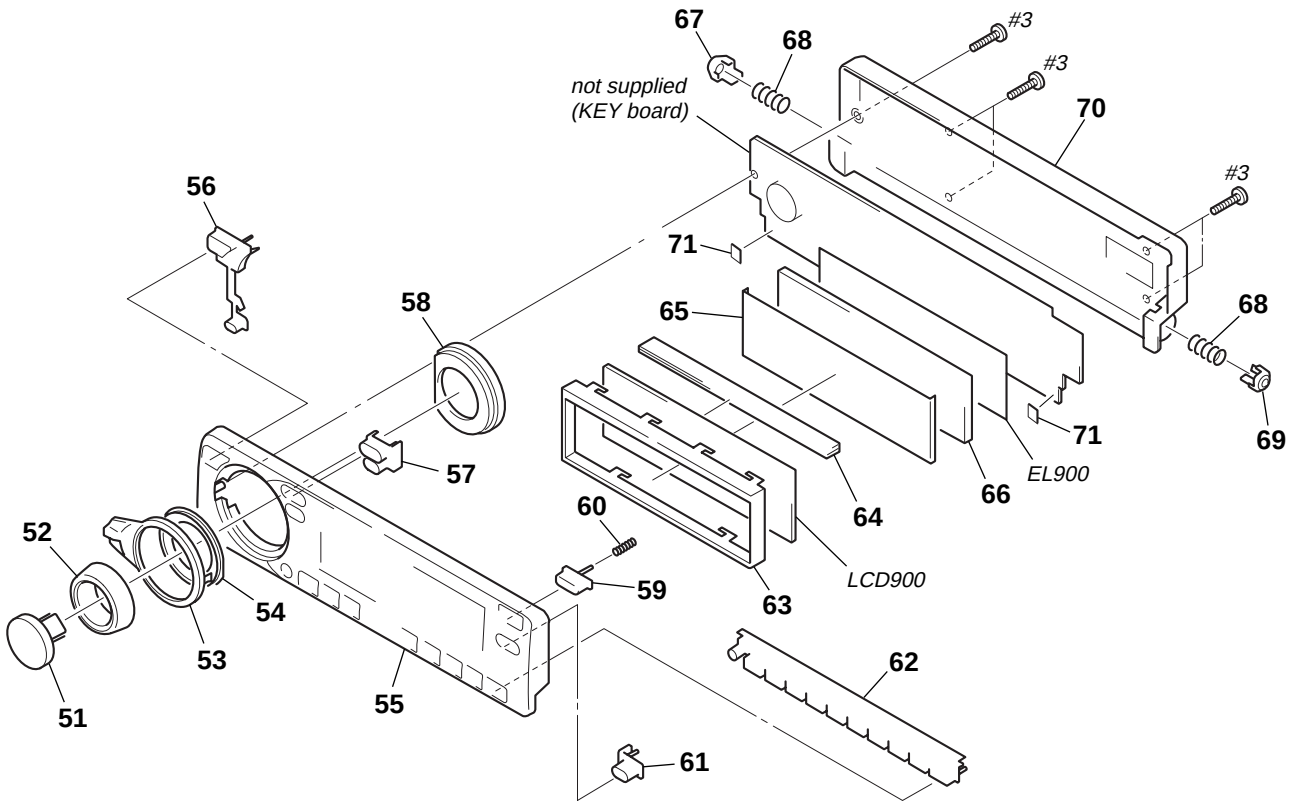
The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

5-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	3-022-316-11	COVER	
2	X-3375-069-1	PANEL ASSY, SUB	
3	3-022-338-01	BUTTON (EJECT)	
* 4	1-669-665-11	RELAY BOARD	
5	X-3375-068-1	LOCK ASSY	
6	X-3375-066-1	BRACKET (GEAR) ASSY	
7	3-953-235-01	DAMPER, OIL	
8	3-011-170-01	GEAR (HOLDER)	
9	3-341-752-11	WASHER, POLYETHYLENE	
* 10	A-3294-456-A	MAIN BOARD, COMPLETE (US)	
* 10	A-3294-500-A	MAIN BOARD, COMPLETE (E)	
* 11	3-014-819-01	HEAT SINK (REG 2)	
12	3-028-301-01	BRACKET (AMP V.M.)	
* 13	3-023-841-01	HEAT SINK	
14	3-360-123-01	PLATE (C), GROUND	
15	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
* 16	3-022-335-01	BRACKET (MECHANISM DECK)	
* 17	3-022-311-01	CHASSIS	
18	1-783-495-11	CORD (WITH CONNECTOR) (INVERTER)	
19	1-776-207-72	CORD (WITH CONNECTOR) (POWER)	
20	1-777-246-21	CORD (WITH CONNECTOR) (ANT)	
21	1-783-902-11	CORD (WITH CONNECTOR) (EQ OUT,SUB OUT)	
22	3-023-539-02	SHEET (INSULATING)	
23	3-937-282-01	CASE (UPPER)	
* 24	3-938-138-01	SHEET (E)	
25	3-937-812-01	CASE (LOWER)	
26	A-3313-920-A	INVERTER BOARD, COMPLETE	
* 27	1-670-215-11	CSV BOARD	
28	1-670-715-11	CSV FLEXIBLE BOARD	
* 29	3-016-299-01	CUSHION	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU10	A-3282-045-A	TUNER UNIT (TUX-012(E))	

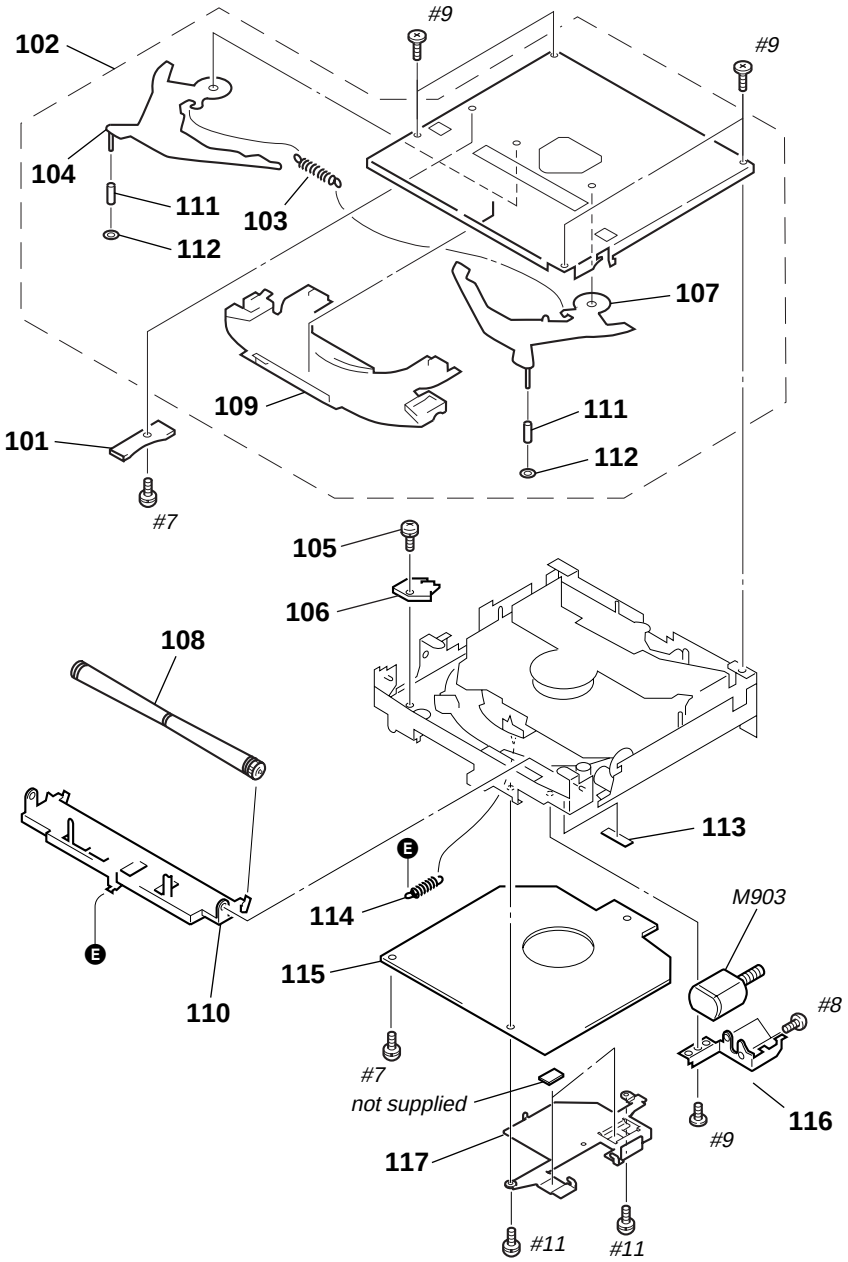
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-022-329-01	BUTTON (SOURCE)	
52	3-022-322-01	KNOB	
53	3-022-323-01	LEVER (SHUTTLE)	
54	3-022-324-01	PLATE (SHUTTLE), LIGHT GUIDE	
55	X-3375-800-1	PANEL SUB ASSY, FRONT (US)	
55	X-3375-801-1	PANEL SUB ASSY, FRONT (E)	
56	3-022-330-11	BUTTON (MODE)	
57	3-022-331-01	BUTTON (SOUND)	
58	3-022-325-01	PLATE (RING), LIGHT GUIDE	
59	3-022-333-01	BUTTON (OPEN)	
60	3-932-225-01	SPRING (OPEN)	
61	3-022-334-01	BUTTON (LIST)	

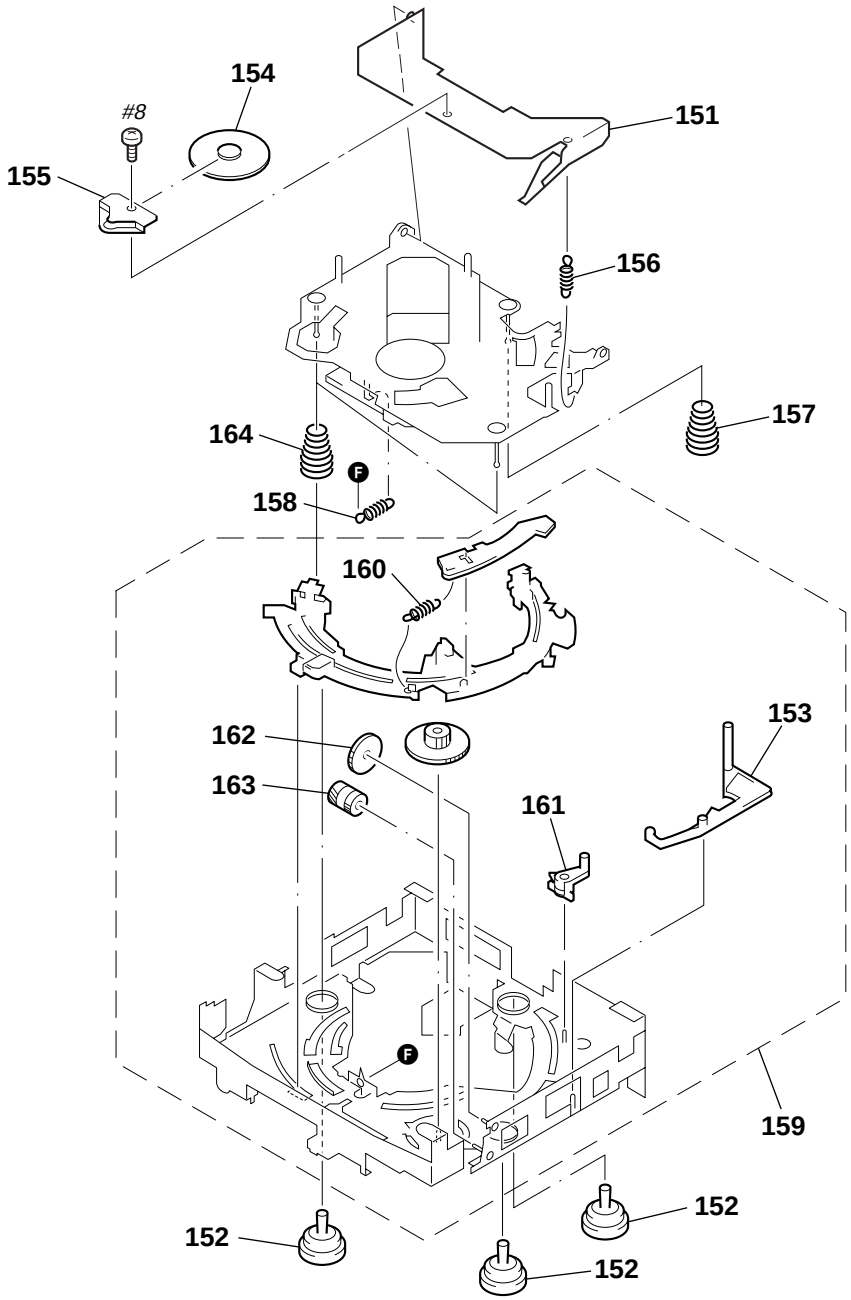
Ref. No.	Part No.	Description	Remark
62	3-022-332-01	BUTTON (10 KEY)	
* 63	3-022-327-01	PLATE (LCD), GROUND	
64	1-694-414-11	CONDUCTOR BOARD, CONNECTION	
* 65	3-022-328-01	ILLUMINATOR (LCD)	
* 66	3-022-326-01	PLATE (LCD), LIGHT GUIDE	
67	3-010-999-01	BEARING (L)	
68	3-010-998-01	SPRING (BEARING)	
69	3-011-000-01	BEARING (R)	
70	3-022-319-01	PANEL, FRONT BACK	
71	3-327-119-01	SPACER (A)	
EL900	1-517-766-11	LIGHT, ELECTRO LUMINESCENT	
LCD900	1-803-107-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-3. CD MECHANISM SECTION (1)
(MG-363S-121)



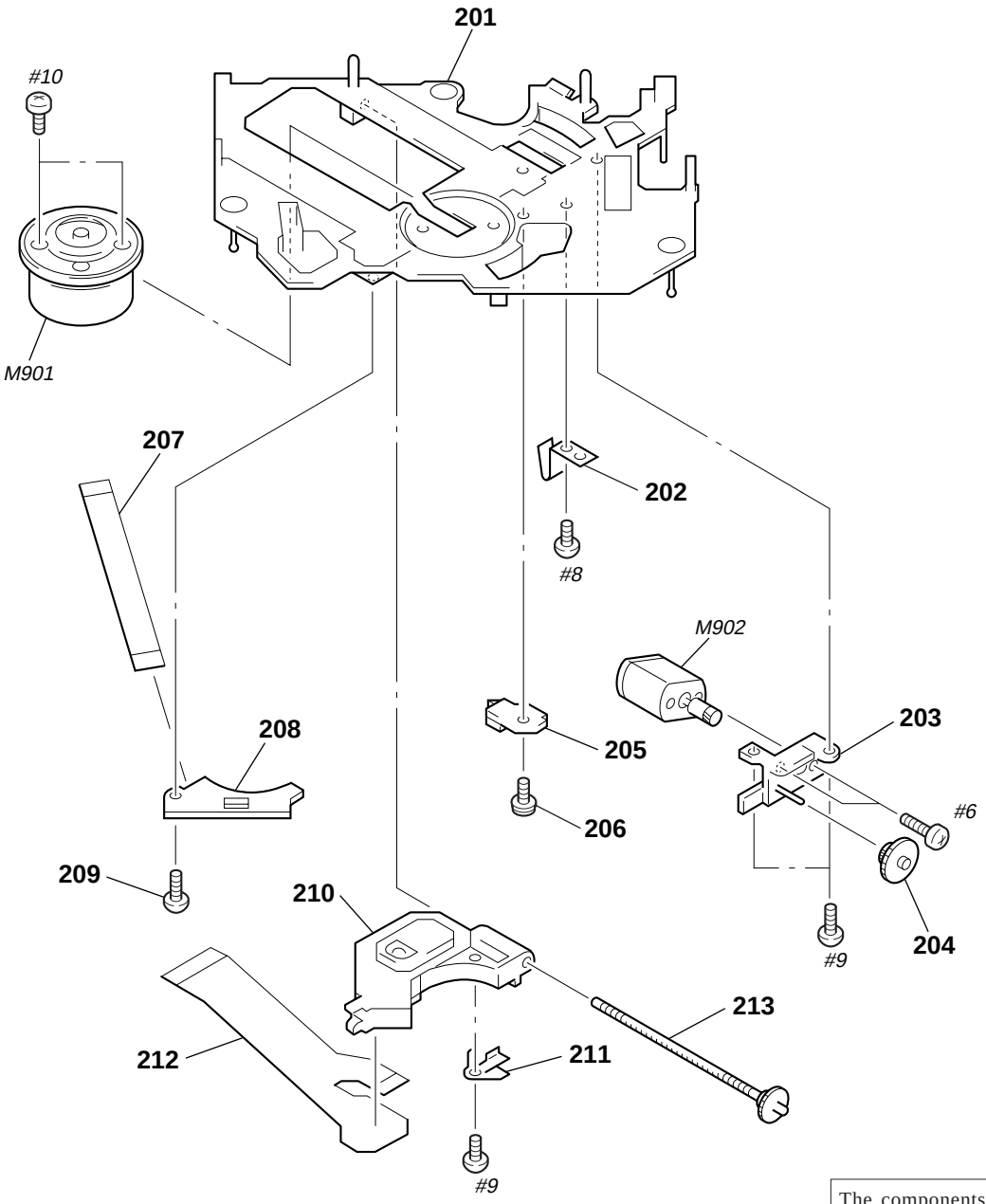
Ref. No.	Part No.	Description	Remark
* 101	1-659-836-11	DISC IN SW BOARD	
* 102	A-3291-816-B	CHASSIS (T) SUB ASSY	
103	3-931-909-01	SPRING (LR), TENSION	
104	X-3371-501-1	LEVER (L) ASSY	
105	3-338-737-01	SCREW (2X3), + PS	
* 106	1-659-837-11	LOAD SW BOARD	
107	X-3371-502-1	LEVER (R) ASSY	
108	A-3301-203-A	ROLLER ASSY	
109	3-931-908-01	GUIDE (DISC)	
110	3-931-902-03	ARM (ROLLER)	
111	3-936-756-01	ROLLER (D)	
112	3-321-393-01	WASHER, STOPPER	
* 113	3-939-139-01	SPACER	
114	3-931-916-01	SPRING (RA), TENSION	
* 115	A-3313-381-A	SERVO BOARD, COMPLETE	
* 116	3-007-530-01	BRACKET (MOTOR)	
117	3-023-537-01	HEAT SINK	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING (LOADING)	

5-4. CD MECHANISM SECTION (2)
(MG-363S-121)



Ref. No.	Part No.	Description	Remark
151	3-931-893-01	ARM, CHUCKING	
152	3-931-897-01	DAMPER (T)	
153	3-931-879-02	LEVER (D)	
* 154	3-913-404-11	RETAINER (DISC)	
155	3-931-894-01	BRACKET (CP)	
156	3-931-895-01	SPRING (CH), TENSION	
157	3-931-898-01	SPRING (FL), COMPRESSION	
158	3-931-914-01	SPRING (ANGLE), TENSION	
* 159	A-3291-677-G	CHASSIS (M) ASSY	
160	3-931-883-01	SPRING (TR), TENSION	
161	3-931-881-01	LEVER (LOCK)	
162	3-931-882-02	GEAR (MDL)	
163	3-007-537-01	WHEEL (U), WORM	
164	3-931-898-11	SPRING (FL), COMPRESSION	

5-5. CD MECHANISM SECTION (3)
(MG-363S-121)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 201	X-3374-022-1	CHASSIS (OP) (O/S) ASSY	
202	3-931-829-01	SPRING (SL), PLATE	
203	X-3371-504-1	BASE (DRIVING) ASSY	
204	3-931-832-01	GEAR (SL MIDWAY)	
* 205	1-659-835-12	LIMIT SW BOARD	
206	3-338-737-01	SCREW (2X3), + PS	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
* 208	1-659-834-11	SUB BOARD	
209	3-909-607-01	SCREW	
⚠ 210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
211	3-931-834-01	SPRING (FEED), PLATE	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
213	A-3291-669-A	SHAFT (FEED) ASSY	
M901	X-3373-096-1	MOTOR ASSY (SPINDLE)	
M902	A-3301-107-A	MOTOR ASSY, SLED (SLED)	

SECTION 6
ELECTRICAL PARTS LIST

CSV **DISC IN SW**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example:
  uA.. : μA.. uPA.. : μPA..
  uPB.. : μPB.. uPC.. : μPC.. uPD.. : μPD..
- CAPACITORS
  uF : μF
- COILS
  uH : μH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-670-215-11	CSV BOARD			
		**********			
		< CAPACITOR >			
C911	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C913	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C914	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C916	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C917	1-164-346-11	CERAMIC CHIP	1uF		16V
C918	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C919	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C920	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C921	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C922	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C923	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C924	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C926	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C927	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C928	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C929	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C935	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C936	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C937	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C938	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN901	1-573-923-21	CONNECTOR, FFC/FPC (ZIF) 14P			
		< IC >			
IC901	8-759-538-27	IC RSC-164			
IC903	8-759-547-61	IC MSM534001E-14TSKFDR3			
IC906	8-759-711-82	IC NJM4580E			
IC907	8-759-082-58	IC TC7W08FU			
IC908	8-759-058-62	IC TC7S08FU(TE85R)			
IC909	8-759-058-64	IC TC7S32FU(TE85R)			
		< COIL >			
L901	1-412-951-11	INDUCTOR	10uH		
L904	1-412-951-11	INDUCTOR	10uH		
L905	1-412-951-11	INDUCTOR	10uH		
L906	1-412-951-11	INDUCTOR	10uH		
L907	1-412-951-11	INDUCTOR	10uH		
L908	1-412-951-11	INDUCTOR	10uH		

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q901	8-729-904-48	TRANSISTOR DTB113EK			
Q902	8-729-900-53	TRANSISTOR DTC114EK			
		< RESISTOR >			
R908	1-216-851-11	METAL CHIP	330K	5%	1/16W
R920	1-216-845-11	METAL CHIP	100K	5%	1/16W
R926	1-216-797-11	METAL CHIP	10	5%	1/16W
R927	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R930	1-216-851-11	METAL CHIP	330K	5%	1/16W
R935	1-216-837-11	METAL CHIP	22K	5%	1/16W
R938	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R939	1-216-821-11	METAL CHIP	1K	5%	1/16W
R940	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R941	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R950	1-216-841-11	METAL CHIP	47K	5%	1/16W
R951	1-216-841-11	METAL CHIP	47K	5%	1/16W
		< NETWORK RESISTOR >			
RB901	1-216-182-00	RES, CHIP NETWORK 220 (3216)			
RB902	1-216-182-00	RES, CHIP NETWORK 220 (3216)			
RB903	1-216-182-00	RES, CHIP NETWORK 220 (3216)			
RB904	1-216-182-00	RES, CHIP NETWORK 220 (3216)			
RB905	1-216-182-00	RES, CHIP NETWORK 220 (3216)			
RB906	1-216-182-00	RES, CHIP NETWORK 220 (3216)			
RB907	1-216-182-00	RES, CHIP NETWORK 220 (3216)			
		< VIBRATOR >			
X901	1-781-090-21	VIBRATOR, CRYSTAL (14.31818MHz)			
**********					
*	1-659-836-11	DISC IN SW BOARD			
		**********			
		< SWITCH >			
SW1	1-572-288-11	SWITCH, PUSH (DISC IN)			
SW2	1-572-288-11	SWITCH, PUSH (SELF)			
**********					

INVERTER | KEY

Ref. No.	Part No.	Description			Remark
	A-3313-920-A	INVERTER BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C551	1-126-157-11	ELECT	10uF	20%	16V
C552	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C553	1-126-934-11	ELECT	220uF	20%	10V
C554	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C555	1-124-257-00	ELECT	2.2uF	20%	50V
C556	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
* CN550	1-564-507-11	PLUG, CONNECTOR 4P			
CN551	1-564-505-11	PLUG, CONNECTOR 2P			
		< DIODE >			
D550	8-719-422-49	DIODE MA8056-L			
D551	8-719-422-80	DIODE MA8075-H-TX			
D552	8-719-404-49	DIODE MA111			
D553	8-719-033-43	DIODE RB751H			
D554	8-719-422-49	DIODE MA8056-L			
		< IC >			
IC550	8-759-495-75	IC NJM317F			
		< TRANSISTOR >			
Q552	8-729-421-22	TRANSISTOR UN2211			
Q553	8-729-026-68	TRANSISTOR 2SD2525(TP)			
Q554	8-729-421-22	TRANSISTOR UN2211			
Q555	8-729-903-46	TRANSISTOR 2SB1132-P			
Q556	8-729-016-11	TRANSISTOR 2SD1507M			
Q557	8-729-021-94	FET 2SK1657-T1B			
		< RESISTOR >			
R552	1-216-198-00	RES,CHIP	1K	5%	1/8W
R553	1-216-198-00	RES,CHIP	1K	5%	1/8W
R555	1-216-158-00	RES,CHIP	22	5%	1/8W
R556	1-216-158-00	RES,CHIP	22	5%	1/8W
R557	1-216-001-00	METAL CHIP	10	5%	1/10W
R558	1-216-097-00	RES,CHIP	100K	5%	1/10W
R559	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R560	1-216-063-00	RES,CHIP	3.9K	5%	1/10W
R561	1-216-180-00	RES,CHIP	180	5%	1/8W
R562	1-216-097-00	RES,CHIP	100K	5%	1/10W
R563	1-216-097-00	RES,CHIP	100K	5%	1/10W
		< TRANSFORMER >			
T550	1-431-831-11	TRANSFORMER, OSCILLATION (EL)			

****

Ref. No.	Part No.	Description			Remark
		KEY BOARD			
		**********			
	1-694-414-11	CONDUCTOR BOARD, CONNECTION			
	3-017-983-01	CUSHION (10)			
*	3-022-326-01	PLATE (LCD), LIGHT GUIDE			
*	3-022-327-01	PLATE (LCD), GROUND			
*	3-022-328-01	ILLUMINATOR (LCD)			
	3-327-119-01	SPACER (A)			
		< CAPACITOR >			
C900	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C901	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C902	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN900	1-778-183-11	PLUG, CONNECTOR 18P			
		< DIODE >			
D901	8-719-420-90	DIODE MA8051-M			
D903	8-719-420-90	DIODE MA8051-M			
		< ELECTRO LUMINESCENT LIGHT >			
EL900	1-517-766-11	LIGHT, ELECTRO LUMINESCENT			
		< IC >			
IC900	8-759-496-75	IC uPD16432BGC-018-9EU			
IC901	8-749-012-25	IC RS-170-TU			
		< JUMPER RESISTOR >			
JW900	1-216-295-00	SHORT	0		
		< LIQUID CRYSTAL DISPLAY >			
LCD900	1-803-107-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< DIODE >			
LED900	8-719-987-45	LED CL-155Y/PG-CD			
LED901	8-719-987-45	LED CL-155Y/PG-CD			
LED902	8-719-987-45	LED CL-155Y/PG-CD			
LED903	8-719-987-45	LED CL-155Y/PG-CD			
LED904	8-719-987-45	LED CL-155Y/PG-CD			
LED905	8-719-987-45	LED CL-155Y/PG-CD			
LED906	8-719-033-13	LED CL-170Y-CD-T			
LED907	8-719-033-14	LED CL-170PG-CD-T			
		< SWITCH >			
LSW900	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (OFF)			
LSW901	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (MODE)			
LSW902	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)			
LSW903	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SOUND)			
LSW904	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (DSPL)			

Ref. No.	Part No.	Description			Remark
LSW905	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SHIFT)			
LSW906	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (1)			
LSW907	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (2)			
LSW908	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (3)			
LSW909	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (LIST)			
LSW912	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (10)			
LSW913	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (9)			
LSW914	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (8)			
LSW915	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (7)			
LSW916	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (6)			
LSW917	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (5)			
LSW918	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (4)			
		< TRANSISTOR >			
Q900	8-729-904-66	TRANSISTOR DTD113EK			
Q901	8-729-904-66	TRANSISTOR DTD113EK			
Q902	8-729-424-08	TRANSISTOR UN2111			
Q903	8-729-424-08	TRANSISTOR UN2111			
		< RESISTOR >			
R901	1-216-045-00	METAL CHIP	680	5%	1/10W
R902	1-216-045-00	METAL CHIP	680	5%	1/10W
R903	1-216-045-00	METAL CHIP	680	5%	1/10W
R904	1-216-049-11	RES,CHIP	1K	5%	1/10W
R905	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R906	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R907	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R908	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R909	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R910	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R911	1-216-045-00	METAL CHIP	680	5%	1/10W
R912	1-216-045-00	METAL CHIP	680	5%	1/10W
R913	1-216-045-00	METAL CHIP	680	5%	1/10W
R914	1-216-049-11	RES,CHIP	1K	5%	1/10W
R915	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R916	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R917	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R918	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R919	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R920	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R931	1-216-037-00	METAL CHIP	330	5%	1/10W
R932	1-216-041-00	METAL CHIP	470	5%	1/10W
R933	1-216-037-00	METAL CHIP	330	5%	1/10W
R935	1-216-182-00	RES,CHIP	220	5%	1/8W
R936	1-216-182-00	RES,CHIP	220	5%	1/8W
R937	1-216-037-00	METAL CHIP	330	5%	1/10W
R938	1-216-037-00	METAL CHIP	330	5%	1/10W
R939	1-216-194-00	METAL CHIP	680	5%	1/8W
R941	1-216-025-00	RES,CHIP	100	5%	1/10W
R942	1-216-041-00	METAL CHIP	470	5%	1/10W
R943	1-216-025-00	RES,CHIP	100	5%	1/10W
R944	1-216-041-00	METAL CHIP	470	5%	1/10W
R945	1-216-065-00	RES,CHIP	4.7K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R946	1-216-089-00	RES,CHIP	47K	5%	1/10W
R947	1-216-089-00	RES,CHIP	47K	5%	1/10W
R948	1-216-049-11	RES,CHIP	1K	5%	1/10W
R949	1-216-049-11	RES,CHIP	1K	5%	1/10W
R950	1-216-049-11	RES,CHIP	1K	5%	1/10W
R951	1-216-049-11	RES,CHIP	1K	5%	1/10W
R952	1-216-093-00	METAL CHIP	68K	5%	1/10W
R953	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R954	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R955	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R956	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R957	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R958	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R960	1-216-025-00	RES,CHIP	100	5%	1/10W
R961	1-216-025-00	RES,CHIP	100	5%	1/10W
R962	1-216-025-00	RES,CHIP	100	5%	1/10W
R963	1-216-025-00	RES,CHIP	100	5%	1/10W
		< ROTARY ENCODER >			
RE900	1-475-014-11	ENCODER, ROTARY			
		< SWITCH >			
S900	1-771-290-11	SWITCH, SLIDE (SEEK/AMS)			
**********					
*	1-659-835-12	LIMIT SW BOARD			
		**********			
		< SWITCH >			
SW3	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)			
**********					
*	1-659-837-11	LOAD SW BOARD			
		**********			
		< SWITCH >			
SW4	1-572-288-11	SWITCH, PUSH (DOWN)			
**********					
*	A-3294-456-A	MAIN BOARD, COMPLETE (US)			
*	A-3294-500-A	MAIN BOARD, COMPLETE (E)			
		**********			
*	3-014-819-01	HEAT SINK (REG 2)			
*	3-023-841-01	HEAT SINK			
	3-028-301-01	BRACKET (AMP V.M.)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< BUZZER >			
BZ501	1-504-920-11	BUZZER			
		< CAPACITOR >			
C10	1-104-665-11	ELECT	100uF	20%	10V
C11	1-163-038-00	CERAMIC CHIP	0.1uF		25V

MAIN

Ref. No.	Part No.	Description			Remark
C12	1-104-665-11	ELECT	100uF	20%	10V
C13	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C14	1-104-665-11	ELECT	100uF	20%	10V
C15	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C16	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C18	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C19	1-124-234-00	ELECT	22uF	20%	16V
C20	1-104-953-11	ELECT	47uF	20%	16V
C21	1-136-169-00	FILM	0.22uF	5%	50V
C22	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C23	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C24	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C25	1-124-234-00	ELECT	22uF	20%	16V
C26	1-124-234-00	ELECT	22uF	20%	16V
C27	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C28	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C31	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C32	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C33	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C36	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C37	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C38	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C39	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C40	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C41	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C42	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C43	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C44	1-115-565-11	CERAMIC CHIP	2.2uF	10%	10V
C45	1-115-565-11	CERAMIC CHIP	2.2uF	10%	10V
C46	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C47	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C48	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C49	1-115-565-11	CERAMIC CHIP	2.2uF	10%	10V
C50	1-115-565-11	CERAMIC CHIP	2.2uF	10%	10V
C51	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C52	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C61	1-137-368-11	FILM	0.0047uF	5%	50V
C91	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C93	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C202	1-126-157-11	ELECT	10uF	20%	16V
C203	1-126-157-11	ELECT	10uF	20%	16V
C204	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C205	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C206	1-124-257-00	ELECT	2.2uF	20%	50V
C207	1-124-257-00	ELECT	2.2uF	20%	50V
C208	1-124-257-00	ELECT	2.2uF	20%	50V
C209	1-124-257-00	ELECT	2.2uF	20%	50V
C210	1-124-257-00	ELECT	2.2uF	20%	50V
C211	1-124-257-00	ELECT	2.2uF	20%	50V
C212	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C213	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C214	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C215	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V

Ref. No.	Part No.	Description			Remark
C216	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C217	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C218	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C219	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C220	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C221	1-126-157-11	ELECT	10uF	20%	16V
C222	1-126-157-11	ELECT	10uF	20%	16V
C223	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C224	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C225	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C226	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C227	1-126-157-11	ELECT	10uF	20%	16V
C228	1-126-157-11	ELECT	10uF	20%	16V
C229	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C230	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C231	1-124-234-00	ELECT	22uF	20%	16V
C232	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C233	1-126-157-11	ELECT	10uF	20%	16V
C234	1-126-157-11	ELECT	10uF	20%	16V
C235	1-104-955-11	ELECT	100uF	20%	10V
C236	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C237	1-124-234-00	ELECT	22uF	20%	16V
C238	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C239	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C240	1-124-234-00	ELECT	22uF	20%	16V
C241	1-124-234-00	ELECT	22uF	20%	16V
C242	1-104-953-11	ELECT	47uF	20%	16V
C243	1-124-234-00	ELECT	22uF	20%	16V
C244	1-124-234-00	ELECT	22uF	20%	16V
C245	1-124-234-00	ELECT	22uF	20%	16V
C246	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C247	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C248	1-124-234-00	ELECT	22uF	20%	16V
C249	1-104-953-11	ELECT	47uF	20%	16V
C250	1-104-953-11	ELECT	47uF	20%	16V
C251	1-125-972-61	ELECT	100uF	20%	16V
C252	1-125-972-61	ELECT	100uF	20%	16V
C253	1-126-157-11	ELECT	10uF	20%	16V
C254	1-126-157-11	ELECT	10uF	20%	16V
C255	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C256	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C257	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C258	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C259	1-125-972-61	ELECT	100uF	20%	16V
C260	1-125-972-61	ELECT	100uF	20%	16V
C261	1-125-972-61	ELECT	100uF	20%	16V
C262	1-125-972-61	ELECT	100uF	20%	16V
C263	1-126-157-11	ELECT	10uF	20%	16V
C264	1-126-157-11	ELECT	10uF	20%	16V
C265	1-126-157-11	ELECT	10uF	20%	16V
C266	1-126-157-11	ELECT	10uF	20%	16V
C267	1-126-301-11	ELECT	1uF	20%	50V
C268	1-119-773-11	ELECT	47uF	20%	25V

Ref. No.	Part No.	Description			Remark
C269	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C270	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C271	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C272	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C273	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C274	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C275	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C276	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C277	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C278	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C279	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C280	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C281	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C282	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C283	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C284	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C285	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C286	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C287	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C288	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C289	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C290	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C291	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C292	1-104-953-11	ELECT	47uF	20%	16V
C295	1-104-955-11	ELECT	100uF	20%	10V
C296	1-104-955-11	ELECT	100uF	20%	10V
C297	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C298	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C299	1-115-469-31	ELECT	4700uF		16V
C301	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C302	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C303	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C304	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C305	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C306	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C307	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C308	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C309	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C310	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C311	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C313	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C314	1-126-157-11	ELECT	10uF	20%	16V
C315	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C316	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C317	1-126-157-11	ELECT	10uF	20%	16V
C318	1-126-157-11	ELECT	10uF	20%	16V
C319	1-126-157-11	ELECT	10uF	20%	16V
C320	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C321	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C322	1-126-157-11	ELECT	10uF	20%	16V
C323	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C324	1-104-955-11	ELECT	100uF	20%	10V
C325	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C326	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C327	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C401	1-115-651-11	ELECT	100uF	20%	16V
C402	1-124-234-00	ELECT	22uF	20%	16V
C403	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C404	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C406	1-115-651-11	ELECT	100uF	20%	16V
C407	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C408	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C409	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C410	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C411	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C412	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C413	1-126-295-11	ELECT	10uF	20%	35V
C414	1-126-295-11	ELECT	10uF	20%	35V
C415	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C416	1-124-234-00	ELECT	22uF	20%	16V
C417	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C418	1-124-257-00	ELECT	2.2uF	20%	50V
C419	1-124-257-00	ELECT	2.2uF	20%	50V
C420	1-115-651-11	ELECT	100uF	20%	16V
C421	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C422	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C423	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C424	1-163-197-00	CERAMIC CHIP	470PF	5%	50V
C425	1-163-197-00	CERAMIC CHIP	470PF	5%	50V
C426	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C427	1-126-295-11	ELECT	10uF	20%	35V
C428	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C429	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C430	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C431	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C432	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C501	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C502	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C503	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C504	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C505	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C506	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C507	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C508	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C509	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C510	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C511	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C512	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C513	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C514	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C515	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C601	1-126-572-11	ELECT	4.7uF	20%	35V
C605	1-126-572-11	ELECT	4.7uF	20%	35V
C606	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C607	1-124-234-00	ELECT	22uF	20%	16V
C608	1-135-216-11	TANTAL CHIP	10uF	20%	10V
C610	1-125-701-11	DOUBLE LAYERS	0.047F		5.5V
C611	1-104-665-11	ELECT	100uF	20%	10V

MAIN

Ref. No.	Part No.	Description			Remark
C612	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C617	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C618	1-124-234-00	ELECT	22uF	20%	16V
C619	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C621	1-124-234-00	ELECT	22uF	20%	16V
C622	1-124-234-00	ELECT	22uF	20%	16V
C627	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C628	1-124-234-00	ELECT	22uF	20%	16V
C629	1-124-234-00	ELECT	22uF	20%	16V
C632	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C634	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C635	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C636	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C637	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C638	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C639	1-126-157-11	ELECT	10uF	20%	16V
C643	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C801	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
* CN10	1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
CN201	1-774-700-21	JACK, PIN 6P (LINE OUT IN/OUT, BUS AUDIO IN)			
* CN202	1-564-506-11	PLUG, CONNECTOR 3P			
* CN203	1-564-506-11	PLUG, CONNECTOR 3P			
CN401	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
CN501	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)			
CN601	1-774-701-11	PIN, CONNECTOR 16P			
* CN603	1-564-510-11	PLUG, CONNECTOR 7P			
CN801	1-770-411-11	CONNECTOR, BOARD TO BOARD 20P			
CN902	1-764-523-11	CONNECTOR, FFC/FPC (ZIF) 14P			
		< DISCHARGE GAP >			
CP10	1-519-504-11	GAP, DISCHARGE			
		< DIODE >			
D10	8-719-422-49	DIODE MA8056-L			
D11	8-719-422-97	DIODE MA8091-M			
D12	8-719-040-04	DIODE MA721WK-(TX)			
D13	8-719-421-24	DIODE MA8039-H			
D201	8-719-801-78	DIODE 1SS184			
D202	8-719-421-24	DIODE MA8039-H			
D203	8-719-404-49	DIODE MA111			
D204	8-719-053-18	DIODE 1SR154-400TE-25			
D205	8-719-053-18	DIODE 1SR154-400TE-25			
D206	8-719-053-18	DIODE 1SR154-400TE-25			
D207	8-719-053-18	DIODE 1SR154-400TE-25			
D208	8-719-053-18	DIODE 1SR154-400TE-25			
D209	8-719-053-18	DIODE 1SR154-400TE-25			
D210	8-719-053-18	DIODE 1SR154-400TE-25			
D211	8-719-053-18	DIODE 1SR154-400TE-25			
D212	8-719-421-24	DIODE MA8039-H			
D213	8-719-404-49	DIODE MA111			
D401	8-719-977-03	DIODE DTZ5.6B			

Ref. No.	Part No.	Description	Remark
D402	8-719-422-97	DIODE MA8091-M	
D501	8-719-400-20	DIODE MA152WA	
D505	8-719-404-49	DIODE MA111	
D506	8-719-977-12	DIODE DTZ6.8B	
D507	8-719-017-62	DIODE MA8068-L-TX	
D508	8-719-057-80	DIODE MA8160-M-TX	
D509	8-719-022-90	DIODE MA8160M	
D510	8-719-057-80	DIODE MA8160-M-TX	
D511	8-719-404-49	DIODE MA111	
D602	8-719-422-76	DIODE MA8075-M	
D603	8-719-801-78	DIODE 1SS184	
D604	8-719-404-49	DIODE MA111	
D605	8-719-404-49	DIODE MA111	
D606	8-719-067-56	DIODE MA112-TX	
D607	8-719-422-76	DIODE MA8075-M	
D609	8-719-801-78	DIODE 1SS184	
D610	8-719-423-23	DIODE MA8110-M	
D621	8-719-053-18	DIODE 1SR154-400TE-25	
D622	8-719-053-18	DIODE 1SR154-400TE-25	
D637	8-719-977-12	DIODE DTZ6.8B	
D640	8-719-049-38	DIODE 1N5404TU	
D642	8-719-423-23	DIODE MA8110-M	
D801	8-719-977-12	DIODE DTZ6.8B	
D802	8-719-977-12	DIODE DTZ6.8B	
D803	8-719-977-12	DIODE DTZ6.8B	
D804	8-719-977-12	DIODE DTZ6.8B	
D805	8-719-977-12	DIODE DTZ6.8B	
D806	8-719-977-12	DIODE DTZ6.8B	
D807	8-719-423-32	DIODE MA8120-M	
D808	8-719-977-12	DIODE DTZ6.8B	
D809	8-719-977-12	DIODE DTZ6.8B	
D810	8-719-977-12	DIODE DTZ6.8B	
D811	8-719-977-12	DIODE DTZ6.8B	
D812	8-719-977-12	DIODE DTZ6.8B	
D813	8-719-977-12	DIODE DTZ6.8B	
D814	8-719-404-49	DIODE MA111	
D815	8-719-977-12	DIODE DTZ6.8B	
D816	8-719-977-12	DIODE DTZ6.8B	
D817	8-719-069-57	DIODE UDZS-TE17-6.8B	
D818	8-719-404-49	DIODE MA111	
D819	8-719-400-20	DIODE MA152WA	
D820	8-719-977-12	DIODE DTZ6.8B	
D821	8-719-404-49	DIODE MA111	
		< IC LINK >	
F601	1-532-637-00	LINK, CHIP IC (ICP-S1.0) 1A	
		< FUSE >	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
		< FERRITE BEAD >	
FB401	1-500-445-21	FERRITE, EMI (SMD)	

Ref. No.	Part No.	Description	Remark
FB403	1-500-445-21	FERRITE, EMI (SMD)	
FB404	1-500-445-21	FERRITE, EMI (SMD)	
FB405	1-500-445-21	FERRITE, EMI (SMD)	
		< IC >	
IC10	8-759-448-85	IC BU2624FV-E2	
IC11	8-759-711-82	IC NJM4580E	
IC104	8-759-366-35	IC TC4W66F(TE12R)	
IC201	8-759-387-26	IC BU4052BCFV-E2	
IC202	8-752-078-67	IC CXA1946BQ-T6	
IC204	8-752-083-07	IC CXA1846AN-T4	
IC205	8-759-444-50	IC TDA8574(T)	
IC206	8-759-711-82	IC NJM4580E	
IC207	8-759-444-50	IC TDA8574(T)	
IC208	8-759-444-50	IC TDA8574(T)	
IC209	8-759-262-37	IC TA2050F(EL)	
IC210	8-759-262-37	IC TA2050F(EL)	
IC211	8-759-486-44	IC TDA7386	
IC301	8-759-537-13	IC NJM2150AV-TE2	
IC401	8-759-531-50	IC PCM1716E-BT2	
IC403	8-759-700-94	IC NJM5532M	
IC404	8-759-711-58	IC NJM78L05UA	
IC501	8-759-539-74	IC MB90574PFV-G-132-BND	
IC505	8-759-449-89	IC BA8270F-E2	
IC601	8-759-547-60	IC XC61AN4302PR	
IC602	8-759-347-50	IC BA3918-V3	
IC603	8-759-540-27	IC TA78DL06AS	
IC604	8-759-495-76	IC RN5VD33AA-TL	
		< JACK >	
J801	1-566-822-41	JACK (REMOTE IN)	
		< JUMPER RESISTOR >	
JC601	1-216-295-00	SHORT 0	
JR101	1-216-295-00	SHORT 0	
		< COIL >	
L10	1-414-398-11	INDUCTOR 10uH	
L11	1-414-398-11	INDUCTOR 10uH	
L402	1-414-398-11	INDUCTOR 10uH	
L501	1-414-398-11	INDUCTOR 10uH	
L601	1-411-670-31	COIL, CHOKE 400uH	
L602	1-414-402-11	INDUCTOR 47uH	
		< TRANSISTOR >	
Q11	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q12	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q14	8-729-921-25	TRANSISTOR FMC2	
Q15	8-729-900-53	TRANSISTOR DTC114EK	
Q16	8-729-920-21	TRANSISTOR DTC314TKH04	
Q17	8-729-920-21	TRANSISTOR DTC314TKH04	
Q18	8-729-920-21	TRANSISTOR DTC314TKH04	

Ref. No.	Part No.	Description	Remark
Q19	8-729-921-25	TRANSISTOR FMC2	
Q51	8-729-021-94	FET 2SK1657-T1B	
Q102	8-729-028-66	TRANSISTOR DTC115EKA-T146	
Q103	8-729-900-53	TRANSISTOR DTC114EK	
Q201	8-729-420-74	TRANSISTOR 2SD1328-RST	
Q202	8-729-420-74	TRANSISTOR 2SD1328-RST	
Q203	8-729-920-28	TRANSISTOR FMG9	
Q205	8-729-028-66	TRANSISTOR DTC115EKA-T146	
Q206	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q207	8-729-420-74	TRANSISTOR 2SD1328-RST	
Q208	8-729-420-74	TRANSISTOR 2SD1328-RST	
Q209	8-729-420-74	TRANSISTOR 2SD1328-RST	
Q210	8-729-420-74	TRANSISTOR 2SD1328-RST	
Q211	8-729-021-94	FET 2SK1657-T1B	
Q212	8-729-920-21	TRANSISTOR DTC314TKH04	
Q213	8-729-920-21	TRANSISTOR DTC314TKH04	
Q214	8-729-920-21	TRANSISTOR DTC314TKH04	
Q215	8-729-920-21	TRANSISTOR DTC314TKH04	
Q401	8-729-922-65	TRANSISTOR 2SD1760F5-PQR	
Q402	8-729-019-00	TRANSISTOR 2SD2394-G	
Q403	8-729-921-25	TRANSISTOR FMC2	
Q404	8-729-904-48	TRANSISTOR DTB113EK	
Q405	8-729-900-53	TRANSISTOR DTC114EK	
Q501	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q502	8-729-900-53	TRANSISTOR DTC114EK	
Q503	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q504	8-729-900-53	TRANSISTOR DTC114EK	
Q508	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q604	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q608	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q611	8-729-106-60	TRANSISTOR 2SB1115A	
Q612	8-729-900-53	TRANSISTOR DTC114EK	
Q617	8-729-922-65	TRANSISTOR 2SD1760F5-PQR	
Q619	8-729-921-25	TRANSISTOR FMC2	
Q621	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q622	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q623	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q624	8-729-921-25	TRANSISTOR FMC2	
Q625	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q626	8-729-900-53	TRANSISTOR DTC114EK	
Q627	8-729-106-60	TRANSISTOR 2SB1115A	
Q801	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q802	8-729-027-23	TRANSISTOR DTA114EKA-T146	
		< RESISTOR >	
R12	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R13	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R14	1-216-037-00	METAL CHIP 330 5% 1/10W	
R15	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R16	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R17	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R20	1-216-049-11	RES,CHIP 1K 5% 1/10W	

MAIN

Ref. No.	Part No.	Description			Remark
R21	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R22	1-216-097-00	RES,CHIP	100K	5%	1/10W
R23	1-216-081-00	METAL CHIP	22K	5%	1/10W
R24	1-216-081-00	METAL CHIP	22K	5%	1/10W
R25	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R26	1-216-081-00	METAL CHIP	22K	5%	1/10W
R27	1-216-081-00	METAL CHIP	22K	5%	1/10W
R28	1-216-081-00	METAL CHIP	22K	5%	1/10W
R29	1-216-089-00	RES,CHIP	47K	5%	1/10W
R30	1-216-089-00	RES,CHIP	47K	5%	1/10W
R31	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R32	1-216-073-00	METAL CHIP	10K	5%	1/10W
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W
R34	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R35	1-216-089-00	RES,CHIP	47K	5%	1/10W
R37	1-216-049-11	RES,CHIP	1K	5%	1/10W
R51	1-216-049-11	RES,CHIP	1K	5%	1/10W
R53	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R120	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-073-00	METAL CHIP	10K	5%	1/10W
R122	1-216-089-00	RES,CHIP	47K	5%	1/10W
R125	1-216-049-11	RES,CHIP	1K	5%	1/10W
R201	1-216-049-11	RES,CHIP	1K	5%	1/10W
R202	1-216-049-11	RES,CHIP	1K	5%	1/10W
R203	1-216-073-00	METAL CHIP	10K	5%	1/10W
R204	1-216-073-00	METAL CHIP	10K	5%	1/10W
R205	1-216-073-00	METAL CHIP	10K	5%	1/10W
R206	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R207	1-216-073-00	METAL CHIP	10K	5%	1/10W
R208	1-216-097-00	RES,CHIP	100K	5%	1/10W
R209	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R210	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R211	1-216-097-00	RES,CHIP	100K	5%	1/10W
R212	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R213	1-216-073-00	METAL CHIP	10K	5%	1/10W
R214	1-216-073-00	METAL CHIP	10K	5%	1/10W
R215	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R216	1-216-073-00	METAL CHIP	10K	5%	1/10W
R217	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R218	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R219	1-216-073-00	METAL CHIP	10K	5%	1/10W
R220	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R221	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R222	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R223	1-216-073-00	METAL CHIP	10K	5%	1/10W
R224	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R225	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R226	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R227	1-216-073-00	METAL CHIP	10K	5%	1/10W
R228	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R229	1-216-097-00	RES,CHIP	100K	5%	1/10W
R230	1-216-097-00	RES,CHIP	100K	5%	1/10W
R233	1-216-089-00	RES,CHIP	47K	5%	1/10W
R234	1-216-089-00	RES,CHIP	47K	5%	1/10W
R235	1-216-089-00	RES,CHIP	47K	5%	1/10W
R236	1-216-089-00	RES,CHIP	47K	5%	1/10W
R237	1-216-049-11	RES,CHIP	1K	5%	1/10W
R238	1-216-049-11	RES,CHIP	1K	5%	1/10W
R239	1-216-049-11	RES,CHIP	1K	5%	1/10W
R240	1-216-049-11	RES,CHIP	1K	5%	1/10W
R241	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R242	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R243	1-216-086-00	RES,CHIP	36K	5%	1/10W
R244	1-216-082-00	RES,CHIP	24K	5%	1/10W
R245	1-216-082-00	RES,CHIP	24K	5%	1/10W
R246	1-216-086-00	RES,CHIP	36K	5%	1/10W
R247	1-216-033-00	METAL CHIP	220	5%	1/10W
R248	1-216-033-00	METAL CHIP	220	5%	1/10W
R249	1-216-081-00	METAL CHIP	22K	5%	1/10W
R250	1-216-081-00	METAL CHIP	22K	5%	1/10W
R251	1-216-082-00	RES,CHIP	24K	5%	1/10W
R252	1-216-082-00	RES,CHIP	24K	5%	1/10W
R253	1-216-082-00	RES,CHIP	24K	5%	1/10W
R254	1-216-082-00	RES,CHIP	24K	5%	1/10W
R255	1-216-049-11	RES,CHIP	1K	5%	1/10W
R256	1-216-049-11	RES,CHIP	1K	5%	1/10W
R257	1-216-086-00	RES,CHIP	36K	5%	1/10W
R258	1-216-086-00	RES,CHIP	36K	5%	1/10W
R261	1-216-086-00	RES,CHIP	36K	5%	1/10W
R262	1-216-086-00	RES,CHIP	36K	5%	1/10W
R264	1-216-033-00	METAL CHIP	220	5%	1/10W
R265	1-216-033-00	METAL CHIP	220	5%	1/10W
R266	1-216-033-00	METAL CHIP	220	5%	1/10W
R267	1-216-033-00	METAL CHIP	220	5%	1/10W
R268	1-216-295-00	SHORT	0		
R269	1-216-049-11	RES,CHIP	1K	5%	1/10W
R270	1-216-049-11	RES,CHIP	1K	5%	1/10W
R271	1-216-049-11	RES,CHIP	1K	5%	1/10W
R272	1-216-049-11	RES,CHIP	1K	5%	1/10W
R273	1-216-017-00	RES,CHIP	47	5%	1/10W
R274	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R275	1-216-081-00	METAL CHIP	22K	5%	1/10W
R276	1-216-081-00	METAL CHIP	22K	5%	1/10W
R277	1-216-081-00	METAL CHIP	22K	5%	1/10W
R278	1-216-081-00	METAL CHIP	22K	5%	1/10W
R280	1-216-081-00	METAL CHIP	22K	5%	1/10W
R281	1-216-073-00	METAL CHIP	10K	5%	1/10W
R282	1-216-049-11	RES,CHIP	1K	5%	1/10W
R283	1-216-049-11	RES,CHIP	1K	5%	1/10W
R284	1-216-049-11	RES,CHIP	1K	5%	1/10W
R285	1-216-049-11	RES,CHIP	1K	5%	1/10W
R286	1-216-081-00	METAL CHIP	22K	5%	1/10W
R287	1-216-081-00	METAL CHIP	22K	5%	1/10W
R288	1-216-081-00	METAL CHIP	22K	5%	1/10W
R289	1-216-081-00	METAL CHIP	22K	5%	1/10W
R290	1-216-083-00	METAL CHIP	27K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R291	1-216-083-00	METAL CHIP	27K	5%	1/10W
R292	1-216-083-00	METAL CHIP	27K	5%	1/10W
R293	1-216-083-00	METAL CHIP	27K	5%	1/10W
R294	1-216-033-00	METAL CHIP	220	5%	1/10W
R295	1-216-033-00	METAL CHIP	220	5%	1/10W
R296	1-216-083-00	METAL CHIP	27K	5%	1/10W
R297	1-216-083-00	METAL CHIP	27K	5%	1/10W
R298	1-216-033-00	METAL CHIP	220	5%	1/10W
R299	1-216-033-00	METAL CHIP	220	5%	1/10W
R300	1-216-083-00	METAL CHIP	27K	5%	1/10W
R301	1-216-083-00	METAL CHIP	27K	5%	1/10W
R302	1-216-107-00	METAL CHIP	270K	5%	1/10W
R303	1-216-107-00	METAL CHIP	270K	5%	1/10W
R304	1-216-107-00	METAL CHIP	270K	5%	1/10W
R305	1-216-107-00	METAL CHIP	270K	5%	1/10W
R306	1-216-080-00	METAL CHIP	20K	5%	1/10W
R307	1-216-080-00	METAL CHIP	20K	5%	1/10W
R309	1-216-080-00	METAL CHIP	20K	5%	1/10W
R310	1-216-080-00	METAL CHIP	20K	5%	1/10W
R311	1-216-081-00	METAL CHIP	22K	5%	1/10W
R312	1-216-081-00	METAL CHIP	22K	5%	1/10W
R313	1-216-081-00	METAL CHIP	22K	5%	1/10W
R333	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R336	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R401	1-216-025-00	RES,CHIP	100	5%	1/10W
R402	1-216-025-00	RES,CHIP	100	5%	1/10W
R403	1-216-025-00	RES,CHIP	100	5%	1/10W
R404	1-216-037-00	METAL CHIP	330	5%	1/10W
R405	1-216-033-00	METAL CHIP	220	5%	1/10W
R406	1-216-037-00	METAL CHIP	330	5%	1/10W
R407	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R409	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R410	1-216-238-00	RES,CHIP	47K	5%	1/8W
R411	1-216-238-00	RES,CHIP	47K	5%	1/8W
R412	1-216-210-00	RES,CHIP	3.3K	2%	1/8W
R413	1-216-210-00	RES,CHIP	3.3K	2%	1/8W
R414	1-216-210-00	RES,CHIP	3.3K	2%	1/8W
R415	1-216-210-00	RES,CHIP	3.3K	2%	1/8W
R416	1-216-222-00	RES,CHIP	10K	5%	1/8W
R417	1-216-222-00	RES,CHIP	10K	5%	1/8W
R501	1-216-049-11	RES,CHIP	1K	5%	1/10W
R502	1-216-097-00	RES,CHIP	100K	5%	1/10W
R504	1-216-097-00	RES,CHIP	100K	5%	1/10W
R505	1-216-085-00	METAL CHIP	33K	5%	1/10W
R506	1-216-097-00	RES,CHIP	100K	5%	1/10W
R507	1-216-097-00	RES,CHIP	100K	5%	1/10W
R509	1-216-089-00	RES,CHIP	47K	5%	1/10W (US)
R511	1-216-097-00	RES,CHIP	100K	5%	1/10W
R512	1-216-097-00	RES,CHIP	100K	5%	1/10W
R515	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R516	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R517	1-216-097-00	RES,CHIP	100K	5%	1/10W
R518	1-216-097-00	RES,CHIP	100K	5%	1/10W
R519	1-216-097-00	RES,CHIP	100K	5%	1/10W
R520	1-216-097-00	RES,CHIP	100K	5%	1/10W
R521	1-216-097-00	RES,CHIP	100K	5%	1/10W
R522	1-216-097-00	RES,CHIP	100K	5%	1/10W
R523	1-216-097-00	RES,CHIP	100K	5%	1/10W
R524	1-216-017-00	RES,CHIP	47	5%	1/10W
R526	1-216-037-00	METAL CHIP	330	5%	1/10W
R527	1-216-089-00	RES,CHIP	47K	5%	1/10W
R528	1-216-097-00	RES,CHIP	100K	5%	1/10W
R529	1-216-049-11	RES,CHIP	1K	5%	1/10W
R531	1-216-073-00	METAL CHIP	10K	5%	1/10W
R532	1-216-025-00	RES,CHIP	100	5%	1/10W
R533	1-216-025-00	RES,CHIP	100	5%	1/10W
R534	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R535	1-216-089-00	RES,CHIP	47K	5%	1/10W
R605	1-216-085-00	METAL CHIP	33K	5%	1/10W
R606	1-216-089-00	RES,CHIP	47K	5%	1/10W
R608	1-216-089-00	RES,CHIP	47K	5%	1/10W
R612	1-216-085-00	METAL CHIP	33K	5%	1/10W
R613	1-216-089-00	RES,CHIP	47K	5%	1/10W
R614	1-216-089-00	RES,CHIP	47K	5%	1/10W
R616	1-216-097-00	RES,CHIP	100K	5%	1/10W
R624	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R625	1-216-097-00	RES,CHIP	100K	5%	1/10W
R626	1-216-073-00	METAL CHIP	10K	5%	1/10W
R631	1-216-041-00	METAL CHIP	470	5%	1/10W
R632	1-216-097-00	RES,CHIP	100K	5%	1/10W
R633	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R636	1-216-073-00	METAL CHIP	10K	5%	1/10W
R637	1-216-073-00	METAL CHIP	10K	5%	1/10W
R638	1-216-073-00	METAL CHIP	10K	5%	1/10W
R639	1-216-085-00	METAL CHIP	33K	5%	1/10W
R655	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R656	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R657	1-216-049-11	RES,CHIP	1K	5%	1/10W
R662	1-216-041-00	METAL CHIP	470	5%	1/10W
R663	1-216-073-00	METAL CHIP	10K	5%	1/10W
R664	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R801	1-216-097-00	RES,CHIP	100K	5%	1/10W
R802	1-216-097-00	RES,CHIP	100K	5%	1/10W
R803	1-216-025-00	RES,CHIP	100	5%	1/10W
R804	1-216-025-00	RES,CHIP	100	5%	1/10W
R805	1-216-073-00	METAL CHIP	10K	5%	1/10W
R806	1-208-462-41	RES,CHIP	10K	2%	1/10W
R807	1-216-049-11	RES,CHIP	1K	5%	1/10W
R808	1-216-025-00	RES,CHIP	100	5%	1/10W
R809	1-216-025-00	RES,CHIP	100	5%	1/10W
R810	1-216-049-11	RES,CHIP	1K	5%	1/10W
R811	1-216-049-11	RES,CHIP	1K	5%	1/10W
R812	1-216-049-11	RES,CHIP	1K	5%	1/10W
R813	1-216-049-11	RES,CHIP	1K	5%	1/10W
R814	1-216-049-11	RES,CHIP	1K	5%	1/10W

MAIN **RELAY** **SERVO**

Ref. No.	Part No.	Description			Remark
R815	1-216-049-11	RES,CHIP	1K	5%	1/10W
R816	1-216-025-00	RES,CHIP	100	5%	1/10W
R817	1-216-049-11	RES,CHIP	1K	5%	1/10W
R818	1-216-049-11	RES,CHIP	1K	5%	1/10W
R819	1-208-462-41	RES,CHIP	10K	2%	1/10W
R820	1-208-462-41	RES,CHIP	10K	2%	1/10W
R822	1-216-049-11	RES,CHIP	1K	5%	1/10W
		< NETWORK RESISTOR >			
RB501	1-233-412-11	RES, CHIP NETWORK	1.0K	(3216)	
RB502	1-233-810-21	RES, CHIP NETWORK	100K	(3216)	
RB503	1-233-412-11	RES, CHIP NETWORK	1.0K	(3216)	
		< SWITCH >			
SW201	1-554-576-21	SWITCH, SLIDE (LINE OUT/IN FRONT, LINE OUT/IN REAR)			
SW501	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT) (E)			
SW502	1-571-478-11	SWITCH, SLIDE (POWER SELECT)			
SW802	1-762-108-31	SWITCH, PUSH (1 KEY) (NOSE)			
		< THERMISTOR (POSITIVE) >			
TH501	1-801-792-21	THERMISTOR, POSITIVE			
		< TUNER >			
TU10	A-3282-045-A	TUNER UNIT (TUX-012(E))			
		< VIBRATOR >			
X10	1-577-126-61	VIBRATOR, CRYSTAL (7.2MHz)			
X401	1-781-085-21	VIBRATOR, CRYSTAL (16.9344MHz)			
X501	1-767-833-21	VIBRATOR, CERAMIC (3.6864MHz)			
X502	1-760-928-21	VIBRATOR, CRYSTAL (32.768kHz)			
**********					
*	1-669-665-11	RELAY BOARD **********			
		< CAPACITOR >			
C802	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C803	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C804	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C805	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C806	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C807	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN802	1-779-170-11	SOCKET, CONNECTOR 20P			
CN803	1-779-169-11	SOCKET, CONNECTOR 18P			
CN804	1-778-330-21	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D822	8-719-069-57	DIODE UDZS-TE17-6.8B			
D823	8-719-069-57	DIODE UDZS-TE17-6.8B			
LED802	8-719-033-14	LED CL-170PG-CD-T (CD WINDOW)			
LED803	8-719-033-14	LED CL-170PG-CD-T (CD WINDOW)			
LED804	8-719-038-07	LED CL-190PG-CD-T (⏏)			
		< RESISTOR >			
R821	1-216-033-00	METAL CHIP	220	5%	1/10W
		< SWITCH >			
SW801	1-692-135-21	SWITCH, KEY BOARD (RESET)			
SW803	1-771-027-11	SWITCH, KEY BOARD (WITH LED) (⏏)			
**********					
*	A-3313-381-A	SERVO BOARD, COMPLETE **********			
		< CAPACITOR >			
C1	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C2	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C3	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C4	1-110-456-11	ELECT CHIP	47uF	20%	16V
C101	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C102	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C105	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C106	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C107	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C110	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C111	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C112	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C113	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C203	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C204	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C205	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C206	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C207	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C208	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C209	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C301	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C303	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C304	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C305	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C306	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C307	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C308	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C309	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C310	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C311	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C312	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C313	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C501	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

Ref. No.	Part No.	Description			Remark
C502	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C503	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C504	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C505	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C506	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C507	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C508	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C509	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C510	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C511	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C513	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C514	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C527	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C551	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C601	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C603	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C605	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P			
CN2	1-766-491-11	CONNECTOR, FPC 17P			
CN4	1-770-347-21	CONNECTOR, FPC 6P			
CN5	1-569-775-21	PIN, CONNECTOR 5P			
		< IC >			
IC1	8-752-069-29	IC CXA1791N			
IC2	8-752-374-12	IC CXD2522R-T6			
IC4	8-759-427-15	IC MB814400C-70PFTN			
IC5	8-752-889-54	IC CXP84640-011Q			
IC6	8-759-823-87	IC LB1638M			
IC7	8-759-370-18	IC BA6797FP-E2			
IC501	8-752-378-67	IC CXD2548R			
IC551	8-759-428-57	IC LC89170M-TLM			
IC601	8-759-335-52	IC BA6195FP-YT2			
		< COIL >			
L103	1-412-060-11	INDUCTOR CHIP	22uH		
L501	1-412-060-11	INDUCTOR CHIP	22uH		
L503	1-412-060-11	INDUCTOR CHIP	22uH		
		< TRANSISTOR >			
Q1	8-729-901-05	TRANSISTOR	DTA124EK		
Q2	8-729-011-95	TRANSISTOR	RN-2426		
Q3	8-729-141-48	TRANSISTOR	2SB624-BV345		
Q4	8-729-901-00	TRANSISTOR	DTC124EK		
Q5	8-729-901-00	TRANSISTOR	DTC124EK		
		< RESISTOR >			
R101	1-216-295-00	SHORT	0		
R102	1-216-081-00	METAL CHIP	22K	5%	1/10W
R103	1-216-081-00	METAL CHIP	22K	5%	1/10W
R104	1-216-103-00	METAL CHIP	180K	5%	1/10W
R105	1-216-103-00	METAL CHIP	180K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R106	1-216-001-00	METAL CHIP	10	5%	1/10W
R108	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R109	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R110	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R111	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R112	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W
R114	1-216-097-00	RES,CHIP	100K	5%	1/10W
R115	1-216-073-00	METAL CHIP	10K	5%	1/10W
R140	1-216-073-00	METAL CHIP	10K	5%	1/10W
R141	1-216-081-00	METAL CHIP	22K	5%	1/10W
R142	1-216-089-00	RES,CHIP	47K	5%	1/10W
R143	1-216-093-00	METAL CHIP	68K	5%	1/10W
R203	1-216-097-00	RES,CHIP	100K	5%	1/10W
R209	1-216-089-00	RES,CHIP	47K	5%	1/10W
R210	1-216-841-11	METAL CHIP	47K	5%	1/16W
R213	1-216-049-11	RES,CHIP	1K	5%	1/10W
R214	1-216-864-11	METAL CHIP	0	5%	1/16W
R217	1-216-081-00	METAL CHIP	22K	5%	1/10W
R218	1-216-089-00	RES,CHIP	47K	5%	1/10W
R219	1-216-097-00	RES,CHIP	100K	5%	1/10W
R220	1-216-097-00	RES,CHIP	100K	5%	1/10W
R222	1-216-845-11	METAL CHIP	100K	5%	1/16W
R223	1-216-841-11	METAL CHIP	47K	5%	1/16W
R224	1-216-841-11	METAL CHIP	47K	5%	1/16W
R301	1-216-025-00	RES,CHIP	100	5%	1/10W
R302	1-216-037-00	METAL CHIP	330	5%	1/10W
R303	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R304	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R305	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R306	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R307	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R308	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R309	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R310	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R311	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R312	1-216-085-00	METAL CHIP	33K	5%	1/10W
R313	1-216-089-00	RES,CHIP	47K	5%	1/10W
R314	1-216-103-00	METAL CHIP	180K	5%	1/10W
R315	1-216-085-00	METAL CHIP	33K	5%	1/10W
R316	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R317	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R318	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R319	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R320	1-216-097-00	RES,CHIP	100K	5%	1/10W
R333	1-216-864-11	METAL CHIP	0	5%	1/16W
R334	1-216-089-00	RES,CHIP	47K	5%	1/10W
R398	1-216-296-00	SHORT	0		
R399	1-216-296-00	SHORT	0		
R501	1-216-097-00	RES,CHIP	100K	5%	1/10W
R502	1-216-073-00	METAL CHIP	10K	5%	1/10W
R503	1-216-121-00	RES,CHIP	1M	5%	1/10W
R504	1-216-061-00	METAL CHIP	3.3K	5%	1/10W

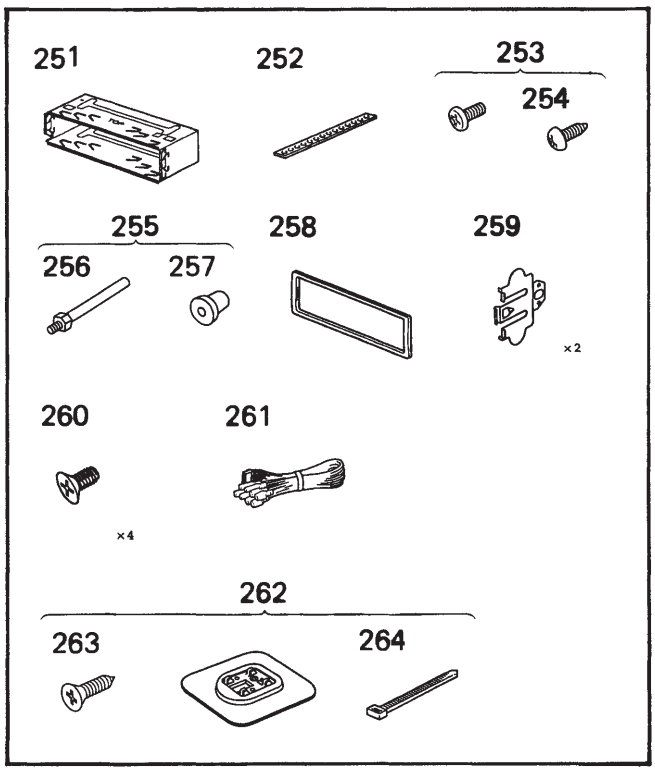
SERVO **SUB**

Ref. No.	Part No.	Description			Remark
R505	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R506	1-216-073-00	METAL CHIP	10K	5%	1/10W
R507	1-216-125-00	METAL CHIP	1.5M	5%	1/10W
R508	1-216-105-00	RES,CHIP	220K	5%	1/10W
R509	1-216-113-00	METAL CHIP	470K	5%	1/10W
R510	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R511	1-216-073-00	METAL CHIP	10K	5%	1/10W
R519	1-216-081-00	METAL CHIP	22K	5%	1/10W
R524	1-216-813-11	METAL CHIP	220	5%	1/16W
R525	1-216-813-11	METAL CHIP	220	5%	1/16W
R526	1-216-813-11	METAL CHIP	220	5%	1/16W
R527	1-216-813-11	METAL CHIP	220	5%	1/16W
R528	1-216-296-00	SHORT	0		
R529	1-216-073-00	METAL CHIP	10K	5%	1/10W
R530	1-216-295-00	SHORT	0		
R531	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R532	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R533	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R551	1-216-089-00	RES,CHIP	47K	5%	1/10W
R552	1-216-809-11	METAL CHIP	100	5%	1/16W
R553	1-216-809-11	METAL CHIP	100	5%	1/16W
R554	1-216-809-11	METAL CHIP	100	5%	1/16W
R555	1-216-809-11	METAL CHIP	100	5%	1/16W
R601	1-216-081-00	METAL CHIP	22K	5%	1/10W
R602	1-216-295-00	SHORT	0		
R603	1-216-085-00	METAL CHIP	33K	5%	1/10W
R604	1-216-097-00	RES,CHIP	100K	5%	1/10W
R605	1-216-081-00	METAL CHIP	22K	5%	1/10W
		< VIBRATOR >			
X1	1-760-365-11	VIBRATOR, CERAMIC (10MHz)			
**********					
*	1-659-834-11	SUB BOARD			
		**********			
		< CONNECTOR >			
CN1	1-770-347-21	CONNECTOR, FPC 6P			
**********					

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
18	1-783-495-11	CORD (WITH CONNECTOR) (INVERTER)	
19	1-776-207-72	CORD (WITH CONNECTOR) (POWER)	
20	1-777-246-21	CORD (WITH CONNECTOR) (ANT)	
21	1-783-902-11	CORD (WITH CONNECTOR) (EQ OUT,SUB OUT)	
28	1-670-715-11	CSV FLEXIBLE BOARD	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
⚠210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
M901	X-3373-096-1	MOTOR ASSY (SPINDLE)	
M902	A-3301-107-A	MOTOR ASSY, SLED (SLED)	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING (LOADING)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-473-067-71	REMOTE COMMANDER (RM-X4S)	
	3-012-070-01	LABEL (SOUND) (2) (FOR RM-X4S)	
	3-339-410-01	COVER (2), PIN JACK	
	3-864-434-11	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-864-434-21	MANUAL, INSTRUCTION (ENGLISH,SPANISH, CHINESE) (E)	
	3-864-435-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH) (US)	
	3-864-435-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,CHINESE) (E)	
	X-3373-926-1	CASE ASSY (XR)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#3	7-685-105-19	SCREW +P 2X8 TYPE 2 NON-SLIT	
#4	7-621-255-15	SCREW +P 2X3	
#5	7-621-772-20	SCREW +B 2X5	
#6	7-627-850-28	SCREW, PRECISION +P 1.4X3	
#7	7-628-253-00	SCREW +PS 2X4	
#8	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE 3	
#9	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE 3	
#10	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE 3	
#11	7-628-253-15	SCREW +PS 2X5	
**********			

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
251	3-009-613-21	FRAME	
252	3-924-961-01	SUPPORT (ND), FITTING (US)	
253	X-3368-725-1	SCREW ASSY, FITTING (US)	
254	7-682-560-04	SCREW +P 4X6 (US)	
255	X-3366-405-1	SCREW ASSY (EXP), FITTING (E)	
256	3-386-828-01	SCREW, FITTING (E)	
257	3-349-410-01	BUSHING (E)	
258	3-022-310-01	COLLAR	
259	3-027-138-01	SPRING, FITTING	
260	3-934-325-01	SCREW, +K (5X8) TAPPING	
261	1-776-207-72	CORD (WITH CONNECTOR) (POWER)	
262	X-3373-432-1	BRACKET ASSY (FOR RM-X4S)	
263	7-685-248-14	SCREW +KTP 3X12 TYPE 4	
* 264	3-671-893-00	CLAMP (LOW TYPE)	



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